# THE DEVELOPMENT AND LOCATION OF INDUSTRIES

# IN GREATER CAPE TOWN

# 1652 - 1972

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# PREFACE

Many geographical studies have been made of the whole or parts of the City of Cape Town. These include a short general study of the structure and functions of the city from 1652 to 1958 by William J. Talbot Cape Town as a World City (in Zum Problem der Weltstadt), several sociological studies by P. Scott and a delimitation of the C.B.D. boundary of the city by D.Davies and 'The Growth and Development of Cape Town' by Margaret Marshall. Others include studies of individual industrial suburbs. It does not appear that a complete study of the industrial structure of the city has ever been attempted. In this thesis an attempt has therefore been made to trace, as far as possible, the growth and development of industry in Greater Cape Town from the time of the first settlement in 1652.

During more than forty years of residence in the Cape Town area the writer has witnessed the growth and changing distribution of industrial undertakings within the expanding metropolitan area. The changing scene, expressive of a sequence of stages in the economic history of the city, should not pass unrecorded by a contemporary observer. Moreover it presents a challenge to an economic geographer to attempt to analyse and to explain the changes that have ensued. The challenge, and the writer's long standing interest in industrial geography has provided the motivation for this thesis.

The information in the latter half of the thesis is based on a number of maps which are contained in the atlas. The maps were compiled from master copies obtained from the Land Survey Branch of the Cape Town City Council, and the Land Survey Branches of the Goodwood, Parow and Bellville Town Councils. Data for the maps showing conditions in 1920 was obtained from Juta's Cape Town Street Directory. The data for the compilation of the maps showing conditions for 1972 were obtained from the Cape Times

Peninsula Directory and from field work.

Most of the remainder of the material for this thesis was obtained from a variety of Government publications, Reports of Government-appointed Commissions, Interdepartmental reports, Acts of Parliament and statistical sources. Many of the tables are based on those to be found in The South African Economy, by D. Hobart Houghton.

Statistical material was obtained from various publications - Statistics of Production - compiled by the Office of Census and Statistics and later from similar publications issued by the Bureau of Statistics. Numerous problems were met with in these compilations, as the methods of presentation of statistics varied from time to time, making it difficult and, in the case of recent years, impossible to make accurate comparisons with statistics of previous years. Some of the earlier issues of Statistics of Production contain extracts from reports returned to the Office of Census and Statistics with the official returns, which provide a great deal of information regarding industrial conditions in the early twenties and thirties and also provide some very interesting reading.

For the first few years of publication the statistics were broken down into four main parts, one each for the four major industrial areas, southern Transvaal, Durban, Port Elizabeth and the Cape Peninsula. The latter is a rather misleading term as it refers to the area which includes Hopefield, Malmesbury, Wellington, Paarl, Stellenbosch, Somerset West, Simonstown and the City of Cape Town and suburbs. Later this region was given the more realistic title of Cape Western. Shortly after the end of the Second World War the method of presentation of staitstics was changed so that instead of presenting these for the whole western Cape, abbreviated statistics were produced for each part of the area making it difficult to collate the information and to establish comparisons with earlier years. After 1962,

when computers were introduced, the whole mode of presentation was again changed, figures being given for the Republic as a whole with no breakdown for individual industrial areas such as the western Cape. It is therefore impossible to quote statistics of production after that date.

Enquiries directed to the Cape Chamber of Industries elicited the fact that statistical records pertaining to the industrial structure of Cape Town do not exist. It was impossible therefore to base this study on the numbers of workers employed in each industrial category or the value of output of individual industries. Therefore it has been necessary to resort to the actual numbers of factories in existence at a particular time as a basis for determining the relative importance of each industrial category in Cape Town. This method is not satisfactory because industrial establishments range from those having two hands to those having several hundreds; therefore an attempt has been made to refine it by reducing the numbers of factories in the different industrial categories to percentages of all factories in Cape Town. By this method it has been possible to assess, to an extent, the relative importance of the representative factories in various industrial categories.

I am most grateful to Mr. S. Johnson of the Department of Geography at the University of Cape Town who has been responsible for the printing of the maps and the binding of the atlases, to Mr. Roderick Anderson of the Town Planning Branch of the City of Cape Town and all those in executive positions in local industry who were kind enough to give up valuable time for discussions of problems affecting their own particular industries. I also acknowledge most gratefully the monetary grants from the Human Research Council and from the Department of Education of the Cape which enabled me to carry out this piece of research.

# INTRODUCTION

In this thesis an attempt is made to trace the development of industry in Cape Town from the time of the first settlement in 1652 until the present - 1972. The approach is both historical and geographical for "as is commonly the case with the geography of a complex economic unit, the present makes no sense until it is related to the evolutionary process which has produced it".(1)

Therefore a somewhat detailed description of the establishment and subsequent growth of the early settlement at the Cape from 1652 to 1920 in Chapter I forms the prelude to the main body of the work. Without some insight into conditions both residential and industrial, which existed in Cape Town before the beginning of the 20th century, it would be impossible to discuss and account for the growth of industries in the city up to the present. As the development of manufacturing in the Cape Town region is but a regional facet of the development of industries in the country as a whole, this introduction is followed in Chapter II by a study of the development of manufacturing in South Africa from shortly after the time of Union when the first satisfactory statistics of industrial production became available. It is shown that at the beginning of the century the two major ports, Cape Town and Durban, had the lion's share of industry in the country because, at the coast, manufacturing industries which were dependent on imported raw materials were most advantageously located in view of the high railway tariffs levied on raw materials transported to the interior. The development of the gold mines, the outbreak of the first World War and a revision of railway tariffs in 1920, the introduction of protective tariffs after 1925 and other measures brought about changes that in time made the southern Transvaal the major industrial centre in the country.

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(1) The Industries of London since 1861, P.G. Hall p.9

The third chapter reviews, as far as available data permits, the development of industry in the Cape Colony from 1840 when the first reliable statistics were published to 1972. This cannot be traced in detail throughout because in 1870 the publication of detailed statistics of production ceased until 1918, the date of the publication of the 1st Industrial Census for 1915-1916.

Thereafter in Chapter IV the expansion of Cape Town is traced from 1920 to the present. In this period it is apparent that the major axes of growth were initially in an east-west and a north-south direction along the main roads and line of rail to the north and to Simonstown until the development of freeways after the Second World War created secondary axes which have influenced the growth and structure of the city.

In Chapters V and VI the development of the industrial[1] structure of Greater Cape Town is traced, as closely as possible, from 1840 to the present. These chapters are divided into a number of periods which, as their limits are set by historical events, are not of equal length.

The first period extends from 1840 to end of the first World War and is brief because of a paucity of statistical data.

The second period commences immediately after the end of the war when an economic boom occurred, this being the direct result of the protection which had been afforded by wartime conditions, and closes at the commencement of the Great Depression (1932), which marked the end of the period of prosperity. The years of the Depression limit the next stage and this is followed by another period of steady growth and consolidation in the industrial field, ending at the beginning of the second World War.

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(1) John W. Alexander: Economic Geography p.288

The term industry is taken to mean "commercial manufacturing (which) includes all activities whereby man (a) assembles raw materials in an establishment (whether cottage workshop or factory building), (b) upgrades their usefulness by changing their form, and (c) ships out these more valuable commodities to other places". It is for these reasons that small farriers shops are classified as industrial concerns but spray painting and panel beating are not

The Second World War gave a great fillip to all industries in South Africa. The final period, 1945 to 1972, concludes the chapter. A lack of statistical data from 1960 onwards renders a detailed analysis of the later part of the period difficult.

Emphasis is laid on the whole problem of labour, for a labour force is essential for the industrial development of a modern state.

A chapter is devoted to the use and re-use of water and the disposal of effluent.

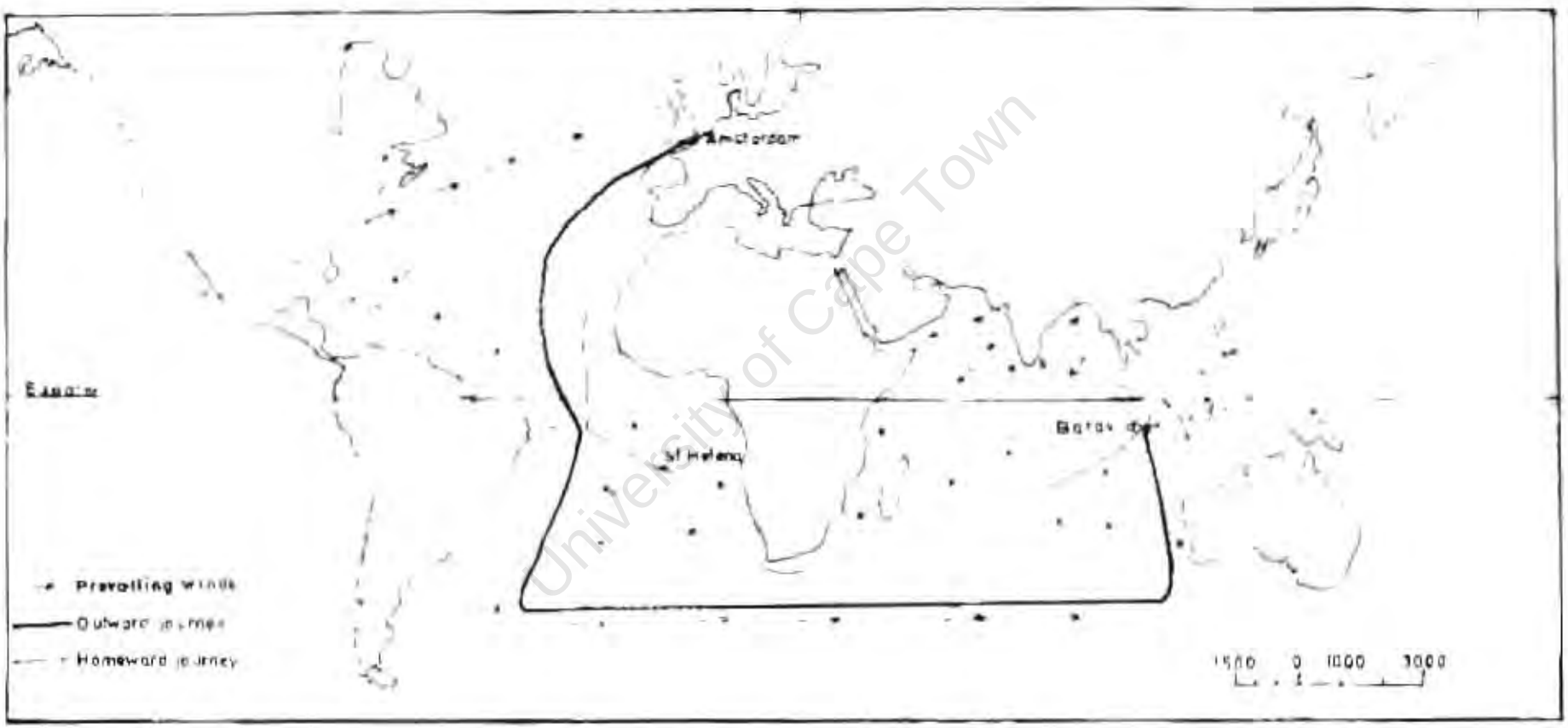


Fig 1

# CHAPTER I

## THE GROWTH OF CAPE TOWN 1652-1900

When the Dutch had established themselves firmly in the East Indies at the beginning of the 17th century, the need for a permanent victualling station for their ships became apparent. On the outward journey ships followed a course which carried them westwards into the Atlantic until they encountered the westerlies near the 40th parallel. On the homeward journey ships passed close by the Cape and could call at St. Helena where fresh water was available and which, in terms of sailing days, was mid-way between Batavia and Amsterdam. The island was rendered useless as a victualling station because it was bypassed on the outward journey. The choice of a site for a victualling station therefore fell upon the coast of southern Africa between St. Helena Bay and Table Bay for it was here that the outward and homeward bound sailing routes drew closest to the coast (Figure 1). Fresh water was available at St. Helena Bay, but unfortunately the anchorage was exposed and extremely dangerous. Saldanha Bay offered an excellent, sheltered anchorage, but there was little fresh water and few Hottentots visited the area, so that visitors would be unable to buy fresh meat. At Hout Bay there was a perennial stream and a considerable alluvial plain on which a settlement could be developed, the area was well wooded so timber was readily available for building purposed and ship repairs, but this anchorage was also dangerous, as the square rigged merchantmen were liable to be wrecked when entering or leaving the bay. Simon's Bay was considered unsuitable because there was too little space for development along the narrow southerly shore. The choice fell finally upon Table Bay, the most exposed anchorage of all, but one which possessed some advantages. There was a considerable area of flat land, the result of a series of uplifts

which had given rise to some raised beaches. Fairly large numbers of Hottentots made their way to this spot for the winter and spring grazing so that there were adequate supplies of fresh meat. Furthermore there were at least two streams flowing from the slopes of Table Mountain and one of these, the Varsrivier, which is now enclosed in a sewer beneath Adderley Street, was perennial.

Table Bay had one inherent disadvantage; its anchorage was exposed to the north-westerly gales, which blew between about May and September. These winds whip up the sea into huge waves which caused moored ships to rise and fall violently and as a result often drag their anchors and to end up on the beach as total wrecks.

In 1647 the Niewe Haarlem was wrecked on the shores of Table Bay (probably modern Milnerton Beach). Some attempts appear to have been made by members of the shipwrecked crew to grow crops. These efforts seem to have met with a measure of success and, on their return to Holland, the leaders of the group, Leeudert Jansen and Mattijs Proot reported on the suitability of area around Table Bay as a victualing post.

The Council of Seventeen thereupon decided to establish a "rendevouz and fort" in the Table Bay Valley. A set of instructions was drawn up for the station Commander's guidance and the post was offered to Proot, who declined the honour. Jan van Riebeeck, who had once been in the service of the Company and who was anxious to rejoin it, applied for the position.

On April 6th 1652 three small ships under the command of Johan van Riebeeck sailed into Table Bay.

The story of Cape Town had begun and shortly thereafter the Dutch began the construction of a small fort near the mouth of the Varsrivier (on the site of the present General Post Office), which then flowed along a course which roughly parallels the present Mill Street and Adderley Street.

To the south, on either side of the river, a garden was laid out (on the site of the present Public Gardens), but its extension eastwards was far greater than that of today. Here, where the land could be easily irrigated, fresh vegetables were grown for the local garrison and for the crews of passing ships.

Two years after the establishment of the settlement a wooden jetty was built near the fort. The lower end of the Varsrivier was straightened and canalised and the old course was used to maintain a moat around the fort. The population of the settlement began to grow by natural increase and in 1657 the Free Burghers were granted permission to build houses in what van Riebeeck described as an "incipient town"(1) to be laid out in the form of a square "50 roods outside the Fort's walls".(2) Four streets, Oliphantstraat, Reygerstraat, Heerestraat and Zeestraat (i.e. modern Longmarket Street, Shortmarket Street, Castle Street and Strand Street) were laid out parallel to the shore.(3) Talbot has shown that wagon tracks had been developed on either side of the straightened river leading from the garden to the beach and other tracks parallel to these were developed into roadways of between 20 and 25 metres in width. The only other wide roads which ran at right angles to these tracks were the present Wale Street, which led from the Schotsche Kloof farm and Zeestraat (the present Strand Street), which led from the quarries on the slopes of Signal Hill to the Castle and then continued eastwards following the route of the present Main Road.(4)



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(1) M.Marshall: The Growth and Development of Cape Town, unpublished M.A. Thesis, p. 23

(2) Ibid. p. 23

(3) A.J. Böeseken et al, Geskiedenis Atlas vir Suid Afrika, p. 52

(4) W.J. Talbot, "Kapstadt als Welstadt" in Zum Problem der Welstadt ed. J.H. Schultze 1959, p. 59

In 1654 a brickfield and kiln were established on the banks of the Vars. In 1658 a brewery was built on the banks of the Liesbeek river and in the same year Wouter Mostert was appointed to take charge of the brickfield as well as of the local grain mill.[1] In 1659 Louwijs Richart established the first private bakery.[2] Later Mostert undertook the construction of a stone gracht[3] to lead water from the village reservoir to the landing stage. The northern section of the Varsrivier which had been canalised was named the Heerengracht, in honour of the Heeren Sewentien in Holland.

Soon after the arrival of the Dutch attempts had been made to grow wheat on flat land immediately to the south of the fort, but the strong southerly winds of early spring often flattened the crops. In an attempt to increase grain production van Riebeeck had allowed several officials to leave the service of the Company to become free burghers, whom he settled on a number of small farms laid out on the banks of the Liesbeek river. (Plate I). Therewith the refreshment station began to develop as a colony.

The farms were laid out in two groups along "den Wagen pad na t'bos"[4], which followed the route of the present Main Road to Rondebosch, where it branched away behind present day St. Paul's Church and followed modern Groote Schuur Avenue and Newlands Avenue to the forests of Kirstenbosch. (Plate I). The first of these farms, De Hollandse Tuyn, was established by S. Botma in 1657 astride the Liesbeek a little south of Fort Coornhoop (on the borders of modern Mowbray and Rosebank). The second, 't Groene Veld, granted to H. Remajenne, lay farther south on the east side of the river.

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(1) P.W. Laidler, The Growth and Government of Cape Town

(2) A.F. Hattersley, An illustrated social history of South Africa, p. 15

(3) A gracht is a stone canal or sluit lining the street, which is still a picturesque feature of many Boland towns

(4) M. Marshall, op.cit. p. 27

Eighteen other farms were laid out later, three north of De Hollandse Tuyn (on the site of Hartleyvale), one being granted to Wouter Mostert. The remainder were laid out to the south of De Hollandse Tuyn and extended as far south as the modern suburb of Bishop's Court. All the farms were provided with adequate water for irrigation in the dry summer months by springs and perennial streams which flowed from Table Mountain.

The Company planted orchards in the vicinity of the site later chosen by Simon van der Stel as his country retreat, on the lower slopes of Windberg (Devil's Peak). Company officials realised that it would be a far better proposition to plant wheat on the more sheltered lands south-east of Table Mountain and two areas were laid out on the piedmont between the 100 metre contour and the Liesbeek. These extended from Groote Schuur (the present residence of the Prime Minister) into the Companjie se Nieuweland. Here soils were richer than those usually found in the Penisnsula, rains are generally heavier and more reliable than elsewhere and the southerly winds of spring and summer less destructive. A barn was built at Rustenberg[1] and in 1657 a vineyard was planted on the granite soils of Wynberg Hill.

In 1655 an outpost settlement was established at Salt River, where later an inn was built at the ford, where the road to the future village of Stellenbosch crossed the Zoute Rivier. Later a mill was built there. This road skirted the southern edge of the Tygerberg, where the ground was firmer than the shifting white sands of the Cape Flats, and passed through the present sites of Maitland and Parow (Riet Vlei). By 1725 two other small settlements had begun to grow between the original town and the southern part of the peninsula. These included an inn at Mowbray, then called

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[1] Mostert's Mill (wind powered) was built on the farm Welgelegen on the slopes of Devil's Peak in 1796. The mill was provided with a threshing floor. Both are in existence today. This mill was probably one of many similar ones which have long since been destroyed

Drie Koppen, and a small collection of houses on the site of the Cavalry outpost on the present Rondebosch Common.(1)

After a disasterous storm in 1737, when eight ships were wrecked in Table Bay during a north-westerly gale, the Company decided that in winter their ships would use Simon's Bay as an anchorage and "therewith the Table Bay - False Bay road (which crossed the Liesbeek at the Wester foort) was confirmed in the rôle it was to play as the major axis of the settlement during the next two centuries".(2) With the use of Simon's Bay as a winter anchorage from 1743 the village of Simonstown began to develop along a narrow raised beach.

At the turn of the eighteenth century there were at least 250 private dwellings in Cape Town.(3) By 1727 local handicrafts included wood working and the making of candles, shoes, saddles and glass and silk was spun in a building in Spin Street.(4)

As the size of the settlement grew and more farms were developed the need for the Company's gardens grew less and less and by 1680 some of the former vegetable plots were being used for growing exotic trees.(5) Other parts were used as sites for Company buildings which included a large house for distinguished visitors (now the State President's town residence called the Tuinhuis) and a slave lodge.(6) Some distance to the north of the slave lodge a church was built on the east side of the Heerengracht and farther east in 1772 the construction of a hospital was commenced on a part of the Exertie Plein in the vicinity of the Cape Technical College



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(1) M. Marshall, op.cit. p.43

(2) W.J. Talbot, op.cit. p.60

(3) M. Marshall, op.cit. p.28

(4) Ibid. p.42

(5) W.J. Talbot, op.cit. p.60

(6) Later in the 19th century the slave lodge was to house the Supreme Court and thereafter Government offices until it was converted into a cultural museum

near the present Barrack Street.[1] In 1795 this was converted into a barracks[2] and its site has been used for such purposes ever since.

By the middle of the 19th century the town had begun to assume its present residential and commercial structure; the more well to do classes had moved to the lower slopes of Table Mountain, Oranjezicht and the Gardens, the poorer classes lived in Caledon and Buitengracht Streets while District Six and the lower slopes of Signal Hill were built over to house some of the Coloured population. Wholesale houses had begun to appear on Waterkant, Strand and Burg Streets while newspaper offices and insurance companies were already ensconced in St. George's Street.[3]

The need for harbour works had become obvious before the beginning of the 19th century. Various attempts had been made to construct a breakwater from the shore at Green Point, but for one reason or another, these never came to anything. In 1836 the Harbour Board was created and two jetties were built in 1842, one near the Castle and the other at the foot of Bree Street.[4] In 1860 the construction of yet another breakwater was begun, the material being obtained on the spot, and the resultant excavations being used for the construction of a basin. In 1870 the Albert Dock was opened.[5] The road linking the town to the docks, Dock Road, soon attracted a number of industries, which included wool pressing, fellmongering, flour milling, soap making, fish curing and boat building, while a gas works was established at the foot of Long Street.[6] The establishment of these industrial concerns at a break in bulk point was facilitated by the



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(1) W.J. Talbot, op.cit. p.61
(2) Ibid. p.61
(3) M. Marshall, op.cit. p.65
(4) Ibid. p.67
(5) Ibid. p.68
(6) W.J. Talbot, op.cit. p.62

availability of skilled White and Malay labour and abundant unskilled Coloured labour. The rapid growth of the mining towns of Kimberley and Johannesburg further stimulated this development. Industrial establishments here and elsewhere in the town remained small, the only industry of importance being the wagon industry which specialised in the construction of coaches and wagons.

The period 1870-1900 also saw the further development of the docks. In 1878 the breakwater was extended and in 1879 the construction of an outer harbour was commenced,which included the construction of berths and a graving dock.(1)

By 1900 there had been little further change. A power station had been build beside the Molteno reservoir and the old horse-drawn trams had been replaced in 1896 be electric trams, the routes of which now linked Sea Point, the Gardens, District Six and the southern suburbs as far south as Wynberg to the city centre. A railway had been built to Sea Point, but as it could never compete with the tram service it was finally closed on 16th April 1929.(2) Caledon square had as yet not been built over and the site of the present City Hall was occupied by an extension of the Public Market.(3) The western edge of the Parade had been chosen as a site for a bank, the General Post Office and an Opera House.

Settlements to the east of the town were established some one hundred and forty years after the arrival of van Riebeeck. "Stickland was a military post in 1796"(4); Pampoenkraal had come into existence by 1815. During the period 1844-1847 the construction of a hard road over the Flats was carried out and a bridge was built on the Salt River ford. With the construction

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(1)M. Marshall op.cit. p.75

(2)M. Murray op.cit. p.94

(3)Juta's Cape Town Directory 1904 - map

(4)P.W. Laidler: The Growth and Government of Cape Town, p.417

of the railway from Cape Town to Eerste Rivier in 1862, D'Urban Road began to develop, its name being changed finally to Bellville.[1]

In 1877 another attempt was made to stabilize the wind-blown sands of the Cape Flats and a railway spur was built into the dunes from Bellville. At the end of this rubbish from the various municipalities was dumped over a period of five years, after which various types of grass and Australian wattles (Acacia saligna) were planted. These shrubs, while binding the loose sand effectively, are now threatening indigenous flora in many parts of the peninsula.[2]

The village of Salt River grew only slowly and in 1876 consisted of only an hotel and a few houses. In 1881 the villages of Papendorp[3] and Salt River were amalgamated to form a new municipality. Observatory developed rapidly after the railway to Wynberg was built. In 1883 the villages of Mowbray, Rondebosch, Newlands-Claremont and Wynberg, all of which had grown up around inns situated at staging posts along the Simonstown Road, were each granted Municipal status. A few years later these municipalities were united to form the Liesbeek Municipality, but this proved a failure and was dissolved in 1890, its component parts being formed into individual municipalities again. In 1913 all were absorbed into the Cape Town Municipality.[4]

In the industrial field the little development which had occured comprised boat building, brewing, footwear manufacturing, some flour milling, tanning, cabinet making, a few foundries and a great number of farriers and harness makers, most of the latter being situated in the southern suburbs along the Main Road to Simonstown.

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(1) P.W. Laidler op.cit. p.418

(2) M. Marshall op.cit.

(3) Papendorp, now Woodstock, was named after Pieter van Papendorp who had settled there in the middle of the 18th century. The name Woodstock being adopted from a local hotel of that name.

(4) Cape Times Dec. 9th 1971

# CHAPTER II

## THE DEVELOPMENT OF INDUSTRY IN SOUTH AFRICA 1910-1972

"Historically the industrial development of South Africa falls into three major periods: the pioneer agriculture, the mining-agricultural, and the mining-agricultural-manufacturing periods."(1) Wellington and Hobart Houghton see the first of these periods as lasting from 1652 to about 1870, an era which was concerned mainly with pastoralism and the production of sufficient cereals to provide for the needs of the small pockets of population spread sparsely over the country. The second period, that of mining and agriculture, extended from about the time of the discovery of diamonds and later of gold to the beginning of the First World War, during which time a few industries devoted chiefly to the assembly of partially manufactured goods and the processing of some agricultural produce grew up at the coastal centres.(2)

During the second period the Union of the four British Colonies, Transvaal, Orange Free State, Natal and the Cape, took place. It was realised that for any advancement to take place in the industrial field a great deal of re-organisation of both the agricultural and manufacturing industries would have to be undertaken.

Four major problems retarded development: the great distances to be covered between the larger centres with totally inadequate means of transportation, the high cost of skilled labour, the lack of capital investment in industries other than mining and, fourthly, the highly unsatisfactory state of agriculture.

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(1) J.H. Wellington, Southern Africa Vol. 11 p.167
(2) Ibid p.167

Consequently it was cheaper to import manufactured or processed agricultural goods than it was to make or process them locally.(1) But the cost of importing unprocessed food was high. For example two-thirds of the wheat consumed in South Africa in 1910 was imported at the high price of R17,25 per ton. This the Cullinan Commission felt could not "be looked upon as a satisfacotry position, for if this country is to advance on sound economic lines, food must be cheap....."(2)

The position of forestry was scarcely better. Little afforestation was taking place and valuable stands of indigenous trees, particularly yellow-wood, were being indiscriminately cut down for use as railway sleepers.(3) This policy of using local timber was a self defeating one for, unless the timber was treated, it did not last long and methods of extracting it merely encouraged, rather than alleviated, the poor white problem in the George and Knysna districts.(4)

The cost of living at the coastal centres was considerably lower than in the interior. This situation probably arose because of the high rail tariffs, which were levied as an indirect form of taxation, both before and after Union. House rents also were lower in the coastal centres than inland. (Table 1)



TABLE 1

Weekly House Rentals for Selected Centres

| Centre | Three Roomed House | Four Roomed House |
|---|---|---|
| Cape Town (Woodstock) | 35s | 40s |
| Port Elizabeth | | 50 - 68s |
| Durban | | 80 - 90s |
| Germiston | 130s | |

(1) Report of the Commission appointed to inquire into the conditions of Trade and Industries and other matters appertaining thereto. Commonly known as the Cullinan Commission of 1912 p.34

(2) Ibid p.34

(3) Ibid p.41

(4) Ibid p.42

(5) Ibid p.23

Consequently wage rates in the coastal centres were correspondingly lower than on the Rand, wages averaged 64 shillings a week in the Cape Province and 117 shillings in the Transvaal.[1] Lower wage rates in the Cape gave industrialists in the province an advantage over industrialists in the other three, particularly the Transvaal. This provided an incentive for industrialists to develop industries in Durban, East London, Port Elizabeth and Cape Town in preference to the Rand. (Table 2)

TABLE 2[2]

Gross Value of Factory Production 1904 and 1911

| | 1904 Rand | 1911 Rand |
|---|---|---|
| Cape of Good Hope | 18 080 158 | 14 862 454 |
| Natal | 7 488 176 | 8 869 124 |
| Transvaal | 12 942 164 | 9 266 872 |
| Orange River Colony | 549 576 | 1 498 218 |
| Totals: | 39 060 974 | 34 496 668 |



Furthermore manufacturers relied largely on overseas sources for their supplies of raw materials. It was considerably cheaper to process these at the ports of entry than to transport them at great expense to the inland centres. This and the lower wage rates compensated considerably for the high railway rates and enabled manufacturing concerns in the coastal areas to develop rapidly. The Cullinan Commission had reported that "cheap transport is the very life blood of commerce and industry",[3] consequently after Union the railway rates were adjusted so as to give preference to inland industries to the detriment of those in coastal centres. Thereafter,

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(1) Statistics of Production 1915-1916 (1st Industrial Census)
(2) Cullinan Commission op.cit.
(3) Ibid p.14

for example, it cost a manufacturer in Johannesburg 27¾d to transport 100 lbs of soap to Springfontein, a matter of 332 miles, while the cost to a Durban manufacturer, delivering the same quantity of soap to the same destination, a distance of 316 miles was 47d. The rates on similar freight from Johannesburg to Kimberley, 310 miles, was 14¾d while that charged for a distance of 486 miles from Port Elizabeth to Kimberley was 45½d.(1) As a result the location of industry began to change, manufacturers tending to set up concerns near the gold mines which were proving to be good markets and near sources of fuel.

By the time of Union a small number of industries had developed in all the coastal centres and Johannesburg. These included printing and packaging, the manufacture of clothing, footwear and other leather goods, candles and soap, the manufacture of fruit and butter boxes, furniture and the construction of vehicles. Most of the raw materials for these industries were imported. The leather industry was an exception for locally produced hides and skins were used almost exclusively. Agricultural produce, particularly fruit, ham, bacon and butter was also processed, and because of the high costs of food and labour, particularly in inland centres, industry struggled and was vulnerable to dumping by overseas manufacturers at prices sufficiently low to compensate for high rail rates. Prior to Union an attempt had been made to protect the printing, footwear, saddlery and harness industry from overseas competition by the introduction of protective tariffs, but this had failed because the Colonial Governments tended to use the tariff as sources of revenue and not as a protective measure. In order to overcome the problem of dumping the Cullinan Commission recommended the introduction of protective tariffs. At the same time it was realised that the railway tariff structure should not only be

(1) Cullinan Commission op.cit. p.14

recast to encourage the development of industry, but that the whole railway system should be developed with the same end in view.

On the whole the recommendations of the Cullinan Commission seem to have been ignored, but an Industries Advisory Board and a Scientific and Technical Committee were established to advise the government on matters appertaining to these subjects. One of the first acts of the Advisory Board was to persuade the government to promulgate the Statistics Act, which had been passed in 1914, for, as the Board pointed out, without reliable statistics of manufacturing little advice on industry could be given.

In its first report, which covered the period October 1916 to December 1917, the Board reported on the timber and leather industries and showed that, because of poor treatment in the initial stages, locally grown timber was suspect and scarcely used in industry. Furthermore, it pointed out that farmers often took little or no trouble when flaying carcasses or when branding live animals, with the result that the quality of South African produced leather varied widely and was not regarded very highly on overseas markets. Representations were made to the Government by the footwear industry to obtain protection from dumping of second-hand boots and shoes on the local market from European and American sources,(1) but with no success.

The Board also drew attention to the current tariff regulations, which it maintained were inflexible. It was argued that these regulations allowed paper of certain dimensions into the country at low duties, but that this type of paper was only suitable for handmade packets. Paper which was suitable for machine-made packets was allowed into the country only after the payment of heavy duties. Such anomalies the Board claimed were acting

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(1) Reports of Industries Advisory Board and Scientific and Technical Committee 1916-1917 p.12

as a brake upon industrial development. Nevertheless the responsible minister remained adamant.

This attitude towards developing industry in South Africa appears to have reflected the views of the mining industry as well as those of organised commerce. The former was sceptical about all facets of industrial development and the latter "generally regarded the South African manufacturer as a hindrance rather than a help."(1)

The Board continued to press its case and recorded the fact that the infelxible tariff regulations were "an evil which is very real, and which unless it is remedied will continue to prove a menace to industrial development."(2)

The First World War proved beneficial to South African industry, if to no one else, for "the conditions created by the war rendered the importation of goods more difficult than usual, and that of some goods impossible." Consequently South Africa was thrown largely upon its own resources, and the industries of the country generally responded to the demands made upon them in a most encouraging manner.(3)

In the long run the Board managed to convince both agricultural and commercial interests that this development was not merely a temporary phase but was something that had come to stay and which would develop. By 1918 the Board was able to report that the Congress of the Associated Chambers of Commerce had actually urged the government, in the interests of industrial development, to introduce a series of protective customs tariffs or alternatively a bounty scheme.(4)

By the time of Union industrial development had progressed farthest

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(1) Reports of Industries Advisory Board and Scientific and Technical Committee - 1918 p.26

(2) Ibid p.25

(3) Ibid p.26

(4) Ibid p.27

in the Cape Province and particularly in Cape Town because the Cape had been settled for more than 250 years and Cape Town was the premier port of the country, being the first port of call for ships from both Europe and the United States. Furthermore, high tariffs on the Cape Government Railways, the fact that most raw materisls were imported and that the city formed the largest market in the former Colony, favoured the concentration of industry there. (Table 2 p.12) By 1915, when the first industrial census was undertaken, the Cape still retained the greatest number of industrial establishments apart from metal working, engineering, machinery and cutlery works, most of which were situated in the Transvaal, (Table 3) although already more capital was invested in industries in the Transvaal than any other province. (Table 3)



TABLE 3 (1)

Number of Factories in each class of Industry in the Union 1915 - 16

| | Class of Industry | Cape of Good Hope | Natal | Transvaal | O.F.S. | Total |
|---|---|---|---|---|---|---|
| I | Treatment of Agricultural raw materials | 65 | 11 | 7 | 1 | 84 |
| II | Stone, Clay | 87 | 29 | 83 | 25 | 224 |
| III | Wood | 91 | 29 | 36 | 9 | 165 |
| IV | Metal, Engineering | 157 | 65 | 233 | 31 | 486 |
| V | Food and Drink | 675 | 192 | 311 | 115 | 1293 |
| VI | Clothing, Textiles | 281 | 53 | 124 | 21 | 479 |
| VII | Paper, Printing | 120 | 44 | 65 | 12 | 241 |
| VIII | Vehicles | 194 | 58 | 88 | 25 | 365 |
| IX | Ships, Boats | 4 | 5 | - | - | 9 |
| X | Furniture | 60 | 19 | 38 | - | 117 |
| XI | Chemicals | 31 | 20 | 26 | - | 77 |
| XII | Jewellery | 5 | 4 | 5 | - | 14 |
| XIII | Platedware | 9 | 7 | 9 | - | 25 |
| XIV | Power | 42 | 22 | 50 | 15 | 129 |
| XV | Leather | 140 | 35 | 80 | 20 | 275 |
| XVI | Building | 9 | 4 | 2 | - | 15 |
| | Total | 1970 | 597 | 1157 | 274 | 3998 |

(1) Statistics of Production 1915-1916 (1st Industrial Census)

The rapid expansion of the gold mining industry had encouraged development of stone and clay processing, engineering and the manufacture of explosives, metal and glass goods. More explosives were produced in the Transvaal than in any of the other Provinces while the coastal and coal-mining province of Natal had also become a very important producer of chemicals second only to the Transvaal in value of output.[1] Capital invested in the generation of heat, light and power in the Transvaal was more than three times as great as that invested in the same industry in the Cape, because coal was readily available for this purpose and the gold mines and associated industries made heavy demands on power supplies. (Table 4)



TABLE 4[2]

Capital invested in Selected Industries in the Union
1915 - 1916
(thousand Rand)

| | Class of Industry | Cape | Natal | Transvaal | O.F.S. |
|---|---|---|---|---|---|
| IV | Metal and Engineering | 2218 | 1774 | 4408 | 453 |
| XI | Chemicals | 3342 | 4203 | 4282 | - |
| XIII | Platedware | 15 | 25 | 25 | - |
| XIV | Power | 5126 | 1863 | 4190 | 581 |
| | Total all industries | 30844 | 21049 | 36711 | 4458 |

(1) In 1908 Kynoch's of Birmingham had established a dynamite factory at Point near Durban because the demand for explosives by both the coal and gold mines had become so great. This site was chosen because of its proximity to the coal mines and because, at that time, most of the raw materials for the production of explosives had to be imported so that nearness to a seaport was advantageous.

(2) Statistics of Production op.cit.

Of greater significance are the gross and nett outputs of each Province, tabulated below. (Table 5)

TABLE 5[1]

Gross and Nett outputs of industry in each Province
1915 - 1916
(thousand Rand)

| | Cape Province | Natal | Transvaal | O.F.S. |
|---|---|---|---|---|
| Gross | 29232 | 19331 | 28533 | 3772 |
| Nett | 11486 | 7898 | 15484 | 1368 |

The Cape Province had a greater number of factories in most categories and although most were small in size and output the Cape Province employed the largest proportion of all workers in industry, (37,3%) compared with the Transvaal (32,3%), Natal (25,9%) and the Orange Free State (4,2%).

In the early post-war years many South African industries found themselves in serious trouble as they were unable to compete with the highly organised industries of Western Europe and the United States, which had rapidly returned to peace-time production.

To alleviate this situation the Government in 1921 established the Board of Trade and Industries. One of the initial functions of the Board was to investigate complaints made by industrialists regarding tariffs and duties levied on imported raw materials and manufactured goods. In 1924 the Minister of Finance instructed the Board to examine also the tariff structure of the Union and to prepare a report for the consideration of Parliament during the 1925 session.

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(1) Statistics of Production op.cit.

Pre-Union tariffs had generally been levied by the Republican and Colonial governments primarily as sources of revenue, there being little incentive to protect industries which hardly existed. In 1906 the government of the Cape Colony had attempted to introduce some measure of tariff protection for the few industries then processing locally produced agricultural raw materials, but although protection was given to "some classes of boots and shoes, biscuits, blankets and rugs, confectionery, soap, sugar, the printing industry, harness and saddlery and animal-drawn vehicles, the aim of the tariff was primarily one of State revenue."(1)

It was not until after Union in 1910 that the Cullinan Commission recommended a certain degree of protection for agricultural and industrial produce. The Commission suggested three criteria which should permit any industry to apply for protection, viz that: (1) a fair proportion of the raw materials used in the manufacture of articles for which protection was required be of local origin; (2) a fair proportion of the labour force employed in the industry be civilised, (i.e. White); and (3) there be a reasonable chance that the industry would prove viable.(2)

The first Union Customs Tariff Act, No.26 of 1914 provided a slightly greater measure of protection, although of 193 items listed, 120 were still allowed to enter the country duty free or at the low rate of 3% ad valorum. An amendment to the Act passed in 1921 established the principle of allowing certain manufactured goods into the country under rebate provided that they were to be used for purposes of manufacturing. Dumping duties were also levied as the United States, Britain and some West European countries were already beginning to dump surplus manufactured goods on the South African market. Subsequently between 1921 and 1924 the government gave the food,

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(1) Board of Trade and Industries Report 282 p.101

(2) Cullinan Commission op.cit. p.102

chemical, packaging, timber, engineering and metal, textile and footwear industries additional protection.(1)

In 1924,on the recommendation of the Board of Trade and Industries, the government introduced an entirely new list of tariffs which was embodied in the Customs Tariff and Excise Duties Amendment Act, No.36 of 1925. Under this new Act packaging (cardboard boxes), clothing, metal and engineering, chemical and paint, printing, blankets, earthenware, furniture and footwear industries were also given greater protection.(2) Thereafter the Board was able to comment "Protection has brought about a considerable diversification of activities and has thus broadened the basis of the Union's national economy which is of great advantage to the country."(3)

The objects of the new tariffs were five-fold. Firstly, customs dues had always been a major source of revenue and, where possible, should remain so. Secondly, the framers of the new tariff regulations had also to bear in mind the fact that industries that showed a tendency to expand, as well as new ones which might be established, should have adequate protection from outside competition. Thirdly, arrangements should be made for the importation free of duty of raw materials required by industry, but not produced locally, while fourthly, the interests of agriculture and mining, where it was essential to keep costs down, should be protected. Finally the Tariffs should provide a basis for negotiating Trade Agreements.

Provision was also made to enable industrialists to import capital equipment as well as certain raw materials under rebate, while wholesalers and retailers had to pay the full duty.



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(1) Cullinan Commission op.cit. p.102
(2) Ibid p.101
(3) Ibid p.104

It was always made clear to prospective industrialists that protection would be granted only on condition that fairly substantial use was made of civilised labour, a condition which was to become increasingly important in economic policy between 1925 and 1939. The effect of this policy was borne out in the Report of the Customs Tariff Commission (1934-35), which stated that "while the sheltered and non-protected industries developed with the general development of the country, it is clear that a great deal of industrial development which took place after 1925 and of the employment resulting therefrom, is directly due to the stimulus given by the protective policy inaugurated in that year."(1)

The iron and steel industry, which is of basic importance to any country which claims to be industrialised, was practically non-existent in South Africa at the turn of the century. The means to establish an iron and steel industry, iron ore, coal, water and labour, were available and prior to 1928 several attempts had been made to establish this industry. In 1901 a blast furnace was built near Pietermaritzburg but failed. Four other furnaces, all designed to smelt scrap, were built near Johannesburg and Vereeniging between 1911 and 1916. In 1917 two more furnaces, using locally mined iron ore, were opened at Pretoria and Vereeniging, respectively. These works remained viable while there was a scarcity of imported steel during the war, but as a result of the depressed price of steel following at the end of the war they were forced to close when it became cheaper to import steel than to manufacture it locally. Two more furnaces were established at Newcastle and Vereeniging following the introduction in 1922 of a system of bounties intended to encourage local production of pig iron. For some years the furnace at Newcastle struggled to survive the competition of cheap imported pig iron and steel, but ultimately was forced to close down in 1934 when the Iscor works came into production.



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(1) Report of the Customs Tariff Commission (1934-35) p.9

It became increasingly apparent that if a steel works were to remain viable it would have to be located close to the source of fuel and raw material and the largest market, which at the time was on the Witwatersrand. Furthermore, the industry located inland would have the protection of high transport costs on imported steel.

The Iron and Steel Industry Act, No.11 of 1928 created the South African Iron and Steel Corporation (ISCOR). Although this was a public undertaking the Government provided the capital for its establishment and construction of the works was commenced shortly thereafter, almost at the end of the period of presperity following the end of the First World War and at the commencement of the depression of 1932-33 when there was little private capital seeking investment. When production eventually began in 1934 the depression was over and an industrial boom had begun. Mining and engineering operations had both begun to expand rapidly in the thirties, which resulted in a great demand for structural steel of all types, providing an expanding market for the infant steel industry.

Electric power is essential to large scale industrial undertakings. The Victoria Falls and Transvaal Power Company was floated in 1906 with the object of generating hydro-electric power at the Victoria Falls for transmission by land line to the gold mines on the Rand. The scheme proved technically impractical at the time and was opposed by the Transvaal colliery owners and the Transvaal Administration. Accordingly the Victoria Falls Company and the Rand Mines Power Supply Company built a station on the Witbank coal field and others at Brakpan, Simmerpan, Rosherville (Johannesburg) and Vereeniging in the southern Transvaal.[1]

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(1) Twenty Five Years : A record of the Origin, Progress and Achievements at the Electricity Supply Commission, Union of South Africa, 1923-1948.

Until 1923 the Victoria Falls and Transvaal Power Company remained the largest producer of electricity in the country. The Electricity Act, No.42 of 1922 was passed by Parliament to create an Electricity Control Board and to provide for the establishment of an Electricity Supply Commission (ESCOM) which was to provide power for industry on a non-profit making basis. This development was necessitated by the increased mechanisation of the gold mines, the electrification of the railway from the Rand to Natal and to encourage the development of basic industries in the country in general.

In 1924 agreements were reached between Escom, the municipalities of Durban and Cape Town and the Railways Administration respectively, for the Commission to supply bulk power to these three organisations. Therewith the Durban and Cape Town Undertakings came into being. By 1939 other ESCOM undertakings had been developed to serve the chief industrial centres.

Between the two World Wars major changes took place in the industrial, mining and agricultural spheres of the economy. From 1917-18 to 1942-43 (both years of relatively high agricultural prices) the net contribution of agriculture to the national income declined from 21,6% to 13,1%, while that of manufacturing increased from 9,6% to 19,4%. In the mining industry there was a relative decline until 1930-31, although the unstable diamond mining industry caused strong fluctuations.(1) In this period the value of gross production of agriculture increased by 32%, mining by 166,6% and manufacturing by 260,6%.(2) The number of establishments in the manufacturing sector of the economy showed the least increase, but value of output increased by 486%, numbers of employees by 234% and fixed capital by 323%. Increase in output per establishment amounted to 211%, per capita output to 75% and the value of fixed capital to 125%.(3)



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(1) Report of the Customs Tariff Commission 1934-35 p.10
(2) Ibid p.12
(3) Ibid p.19

It must be concluded, therefore, that remarkable improvements had been effected in equipment, techniques and training methods, as the increase in overall productivity was more than twice as great as the increase in the number employed.

TABLE 6[1]

Comparative statistics of production for industries in British Commonwealth (excluding U.K.) and U.S.A. 1916-41

| | S.A. % | U.S.A. % | Canada % | Australia % | N.Zealand % |
|---|---|---|---|---|---|
| Annual average rate of increase of gross output 1916-1941 | 6,9 | 1,4 | 2,08 | 4,9 | 5,04 |
| Annual average increase in value of nett output 1916-1941 | 7,5 | 1,8 | 1,8 | 5,7 | 5,3 |
| Increase in number of persons employed | 4,9 | 0,25 | 0,9 | 3,03 | 3,4 |

(2)

Two booms occured in this twenty-five year period; the first between 1922-23 and 1928-29, when the increases in volume of production averaged 6,19%, a direct result of the newly introduced customs tariffs, and the second between 1934-35 and 1938-39, when productivity increased by 10,56%. The latter occured without much additional tariff protection,[3] indicating

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(1) Report of the Customs Tariff Commission 1934-35 p.19

(2) Table 6 indicates very clearly the industrial revolution which occured in South Africa between the two World Wars. The United States and Canada, which for sometime had been highly industrialised, showed annual average rates of increase of gross output between 1916 and 1941 of 1,4% and 2,08%. In Australia and New Zealand, which had become industrialised more recently, the rates of growth were 4,9% and 5,04% respectively, while in South Africa the rate was 6,9%. The annual average increase in the value of nett output for the same period was even more impressive. In South Africa and Australia the rate increased by 7,5% and 5,7% respectively while in New Zealand the rate of increase was 5,3% and in the U.S.A. and Canada only 1,8%. Similar large increases in the labour field also occured.

(3) Report of the Customs Tariff Commission 1934-35 p.20

that other factors had by then begun to play an important part in the development of the industrial sector. These were the depreciation of the Union's currency following the departure from the gold standard, and improvements in manufacturing techniques and the increased use of machinery to effect economies of labour. Managerial skills were also improving rapidly. As overseas concerns came to realise that it would be difficult to undersell locally manufactured goods,many established branches in South Africa with the result that new ideas and technical skills were introduced to local industrialists.

The effect of the depression between 1929 and 1933 is clearly reflected in column 3 of Table 7, wherein it will be seen that the fixed captial per establishment as well as the gross output per establishment actually fell by 0,11% and 0,75% respectively in this period. All other categories reflect a decline in the rate of economic development. In the following period, 1934-35 to 1938-39, there was a renewed upsurge and in most cases ground lost was more than regained.

In the first year of the Second World War the number of establishments decreased, probably due to the closure of a number of one or two-man workshops when the proprietors left to join the armed forces. The remainder of Table 7 indicates a further, but slower development in all branches of manufacturing, as these began to be re-organised for wartime production.

In the period 1916 to 1942 manufacturing began to assume the pattern of location which has been followed ever since. (Table 8) It has been shown in Table 2 that between 1904 and 1911 the Cape of Good Hope had the greatest industrial output in South Africa. In 1904 the Cape was responsible for 46% of the total factory production, the Transvaal about 30%, Natal 17% and the Orange River Colony 1,2%; by 1911 the proportions had changed to 41%, 25%, 23% and 11% respectively. It is apparent that

the two coastal Colonies were taking advantage of their positions to import raw materials and semi-finished goods cheaply, which were then processed and sold in the interior markets.

By 1916-17, when the first formal complete industrial census was taken, the percentage contribution of the Cape and Natal to the Union's total nett output had declined to 25,2% and 11,7% while that of the Transvaal and the rest of the Union, including the Orange Free State, had risen to 37,4% and 25,7% respectively. A tendency towards centralisation of industry in the four main centres, southern Transvaal, western Cape, Port Elizabeth and Durban-Pinetown had become apparent. In the ensuing twenty-five year period, 1916-1941 the greatest industrial expansion took place in the southern Transvaal, where the nett output of manufacturing increased from 37,4% in 1916-17 to 46,7% of the Union total in 1941-42. The industries which had been established had, by 1941-42, attracted 184 500 employees, nearly half the total labour force in the Union. As a result of favourable railway tariffs, customs protection, cheap power produced from easily mined coal, other local mineral resources and the large local market, created by the population attracted to the goldmines, the southern Transvaal had become the leading industrial area in the whole country.

A lack of minerals, a small local market, great distances from other population centres in the country and unfavourable railway tariffs all contributed to a slower industrial growth in the western Cape. Nett output increased from R9 000 000 in 1916-17 to R48 000 000 in 1941-42 but the contribution to the Union total fell from 22,1% to 18,7%. The increase in the labour force likewise was not as spectacular as in the southern Transvaal - from 26 000 to 69 000, an increase of 43 000 in the Cape compared to 150 000 in the Transvaal. (Table 8)

T A B L E 7 (1)

Industrial development in Union of South Africa

| | 1916-17 | 1922-23 | 1928-29 | 1934-35 | 1938-39 | 1941-42 | I 1916-22 | II 1922-28 | III 1928-34 | IV 1934-38 | V 1938-41 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | (all industries) Average Annual Rate of Increase (%) | | | | |
| Number of establishments | 5 305 | 7 029 | 7 433 | 9 042 | 10 256 | 9 989 | 4,8 | 0,94 | 3,32 | 3,2 | 0,88 |
| Fixed Capital - R000 000 | 63,6 | 100,6 | 130,6 | 157,8 | 226,4 | 268,2 | 7,94 | 4,45 | 3,2 | 9,44 | 5,94 |
| Fixed Capital per establishment - R000 | 11,98 | 14,30 | 17,58 | 17,46 | 22,06 | 26,94 | 2,99 | 3,50 | − 0,11 | 6,02 | 6,89 |
| Number of Employees - Total | 123 842 | 172 047 | 217 486 | 265 848 | 352 500 | 413 492 | 5,63 | 3,98 | 3,4 | 7,31 | 5,46 |
| European | 46 100 | 61 296 | 89 141 | 115 971 | 144 838 | 149 113 | 4,86 | 6,44 | 4,48 | 5,71 | 0,97 |
| Non-European | 77 742 | 110 751 | 128 345 | 149 877 | 207 662 | 264 379 | 6,08 | 2,49 | 2,62 | 8,49 | 8,38 |
| Employees per establishment | 28,3 | 24,5 | 29,3 | 29,4 | 34,3 | 41,4 | 0,84 | 3,03 | 0,05 | 3,93 | 6,47 |
| Value of Gross output - R000 | 99,0 | 14,90 | 226,4 | 263,2 | 299,2 | 544,8 | 7,05 | 7,22 | 2,54 | 10,98 | 10,99 |
| Gross output per establishment - R000 | 18,64 | 21,20 | 30,46 | 29,12 | 38,92 | 54,64 | 2,17 | 6,23 | − 0,75 | 7,52 | 11,97 |
| Value of Nett output - R000 | 34,8 | 68,8 | 101,0 | 122,4 | 184,0 | 256,0 | 9,55 | 6,61 | 3,25 | 10,73 | 11,64 |
| Index of Volume of Gross output (1934-35 = 100) | 30,6 | 43,5 | 69,4 | 100 | 149,4 | 179,4 | 6.04 | 8,10 | 6,28 | 10,56 | 6,29 |
| Index of Volume of Gross output per establishment (1934-35 = 100) | 52,2 | 55,9 | 84,5 | 100 | 131,7 | 162,4 | 1,15 | 7,13 | 2,85 | 7,13 | 7,23 |
| Index of Volume of Gross output per employee (1934-35 = 100) | 65,7 | 68,6 | 84,8 | 100 | 112,7 | 115,3 | 0,72 | 3,60 | 2,79 | 3,64 | 0,76 |

(1) Board of Trade and Industries Report No.282 p.19

TABLE 8[1]

Regional Distribution of Industries

(All Industries)

| | 1916-17 | 1928-29 | 1938-39 | 1941-42 |
|---|---|---|---|---|
| Cape Western[2] | | | | |
| Value of Gross output (R000) | 21 955,6 | 47 180,4 | 69 122,8 | 95 596,2 |
| % of Union total | 22,2 | 20,8 | 17,3 | 17,5 |
| Value of Nett output (R000) | 8 827,4 | 22 882,9 | 34 256,0 | 47 887,6 |
| % of Union total | 22,1 | 22,4 | 18,6 | 18,7 |
| No. of employees (000) | 25,9 | 42,6 | 58,1 | 69,3 |
| % of Union total | 20,9 | 19,6 | 16,5 | 16,8 |
| Port Elizabeth | | | | |
| Value of Gross output (R000) | 3 933,8 | 16 014,0 | 24 931,0 | 31 116,0 |
| % of Union total | 4,0 | 7,1 | 6,2 | 5,7 |
| Value of Nett output (R000) | 1 249,0 | 5 898,6 | 15 410,6 | 13 094,4 |
| % of Union total | 3,1 | 5,8 | 5,7 | 5,1 |
| No. of employees (000) | 4,2 | 10,9 | 16,1 | 18,3 |
| % of Union total | 3,4 | 5,0 | 4,6 | 4,4 |
| Durban Pinetown | | | | |
| Value of Gross output (R000) | 12 278,6 | 30 654,0 | 51 332,0 | 69 608,0 |
| % of Union total | 12,4 | 13,5 | 12,9 | 12,8 |
| Value of Nett output (R000) | 4 662,2 | 11 860,8 | 22 396,8 | 30 126,8 |
| % of Union total | 11,7 | 11,6 | 12,2 | 11,8 |
| No. of employees (000) | 13,7 | 25,0 | 38,5 | 46,4 |
| % of Union total | 11,1 | 11,5 | 10,9 | 11,2 |
| Southern Transvaal | | | | |
| Value of Gross output (R000) | 31 932,4 | 72 386,6 | 164 806,0 | 240 266,4 |
| % of Union total | 32,4 | 31,9 | 41,3 | 44,0 |
| Value of Nett output (R000) | 14 916,2 | 35 452,4 | 81 028,4 | 119 612,8 |
| % of Union total | 37,4 | 34,7 | 44,0 | 46,7 |
| No. of employees (000) | 34,9 | 74,2 | 154,9 | 184,5 |
| % of Union total | 28,2 | 34,1 | 43,9 | 44,6 |
| Rest of Union | | | | |
| Value of Gross output (R000) | 28 818,2 | 60 644,6 | 89 042,6 | 109 163,0 |
| % of Union total | 29,1 | 26,7 | 22,3 | 20,0 |
| Value of Nett output | 10 238,4 | 26 177,6 | 35,954,8 | 45 250,4 |
| % of Union total | 25,7 | 25,6 | 19,5 | 17,7 |
| No. of employees (000) | 45,1 | 65,2 | 87,0 | 94,6 |
| % of Union total | 36,4 | 30,0 | 24,7 | 22,9 |

(1) Board of Trade and Industries op.cit. p.21 - Mining not included.

(2) Cape Western: Cape Town, Wynberg, Simonstown, Stellenbosch, Somerset West, Paarl, Wellington, Malmsbury, Hopefield, Port Elizabeth includes Uitenhage. Southern Transvaal: Pretoria, Witwatersrand, Vereeniging. Rest of Union: Included the Orange Free State.

It is noteworthy that during the period 1927-28 to 1941-42 representatives of twelve industrial groups of a total of seventeen became increasingly concentrated in the southern Transvaal.[1] Exceptional developments took place in the output of the furniture industry which increased there by 14,3%. Other developments occured in metal and engineering (12,7% increase in output), books and printing (10,9%) and drugs and chemicals (10,6%). (Table 9)

TABLE 9[2]

Output of several industrial categories in the southern Transvaal 1927-28 to 1941-42

| Group | Category | % of Union output 1927-28 | 1941-42 | % increase |
|---|---|---|---|---|
| IV | Metal & Engineering | 63,1 | 75,8 | 12,7 |
| V | Food & Drink | 14,0 | 19,0 | 5,0 |
| VII | Books and Printing | 25,6 | 36,5 | 10,9 |
| X | Furniture | 34,6 | 48,9 | 14,3 |
| XI | Drugs & Chemicals | 34,6 | 45,2 | 10,6 |
| XV | Leather | 13,4 | 19,7 | 6,3 |

Developments were also taking place rapidly in the three other urban-industrial centres in the Union, leading to overcentralisation of industry in a few centres to the detriment of other parts of the country.

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(1) Stone, clay, etc.; wood; metals and engineering; food and drink; clothing and textiles; books and printing; vehicles; furniture; chemicals; heat, light and power; leather and leatherware; building and contracting.

(2) Board of Trade and Industries op.cit. p.98

Concurrently, certain groups of industries were tending to concentrate in particular areas. The western Cape Province had a concentration of industries concerned with the production of foodstuffs and beverages, clothing, books and printing, furniture, wood, chemicals and leather goods and with building and construction, while the industries of the Port Elizabeth area were mainly concerned with the production of leather goods and vehicles. In the Durban-Pinetown area the leading industries included those producing chemicals, clothing, books and other printed matter, and furniture,

This concentration of industries in four areas, particularly in the southern Transvaal, caused great concern to the Board of Trade and Industries, which feared that as the gold mining industry declined, "many industries now flourishing on the Rand will find it hard to exist when the reduction in gold production sets in."(1) These misgivings appear to have been proved without foundation, as industries in the Pretoria, Witwatersrand, Vereeniging complex continue to expand, their own growth generating more wealth and creating new markets. Over-development in this region may yet prove unhealthy, particularly in view of the fact that water resources of the Vaal basin are now severely taxed and water is being drawn from the Tugela Basin to supplement the Vaal catchment area.

In the twenty-five year period 1916-17 to 1941-42, the nine industrial categories listed in Table 9 developed most rapidly. The engineering and metal industries made rapid strides and overtook the alimentary industries as the leading group. In the decade 1928-1938 the engineering industry changed from a service industry for the mines and railways to a fully fledged industry, processing many locally produced raw materials. The production of foodstuffs and beverages increased, although its relative importance declined in relation to engineering.

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(1) Board of Trade and Industries op.cit. p.100-101

TABLE 10[1]

Nett output of each class as a percentage of the total nett output (all industries)

| | Class of Industry | 1916-17 | 1928-29 | 1938-39 | 1941-42 |
|---|---|---|---|---|---|
| II | Stone & Clay, etc. | 3,4 | 4,8 | 5,3 | 4,0 |
| IV | Metals & Engineering | 20,0 | 21,0 | 23,4 | 25,6 |
| V | Food & Drink | 26,6 | 21,2 | 17,5 | 18,1 |
| VI | Clothing & Textiles | 4,1 | 5,0 | 6,4 | 7,6 |
| VII | Books & Printing | 6,4 | 7,8 | 6,3 | 5,5 |
| VIII | Vehicles, etc. | 3,0 | 5,1 | 5,1 | 3,5 |
| XI | Chemicals | 9,2 | 6,2 | 5,9 | 7,4 |
| XIV | Heat, light & power | 10,0 | 9.7 | 10,2 | 9,5 |
| XVI | Building | 7,0 | 9,5 | 9,5 | 7,0 |



The output of the clothing industry increased from 4,1% in 1916-17 to 7,6% in 1941-42, which is partly attributable to an increase in the standard of living, which accompanied an increase in the national income in this twenty-five year period. In part, this increase in output is also attributable to the growth of the industry as a result of improved techniques and a decline in imports of clothing.

These changes between 1916-17 and 1938-39 mark a veritable industrial revolution in South Africa. (Table 10)

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(1) Board of Trade and Industries op.cit. p.22

TABLE 11[1]

Percentage increase in value of Nett Output
(all industries)

| | Class of Industry | 1916-17 to 1938-39 % |
|---|---|---|
| II | Stone, clay, etc. | 671 |
| III | Woodworking & furniture manufacture | 409 |
| IV | Metals & Engineering | 436 |
| V | Food & Drink | 203 |
| VI | Clothing, textiles, etc. | 620 |
| VII | Books & Printing | 348 |
| VIII | Vehicles | 678 |
| X | Furniture | 380 |
| XI | Chemicals | 197 |
| XIV | Heat, light & power | 329 |
| XV | Leather and leather goods | 387 |
| XVI | Building & contracting | 527 |



Especially noteworthy was the increase of 678% in the output of vehicles following the opening of production lines by Ford and General Motors in Port Elizabeth in 1924 and 1925, followed by the opening of plants by other companies in other centres such as Cape Town, Pretoria and Durban. The National Roads programme and a boom in the building industry promoted the processing of stone and clay. The manufacturing

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(1) Statistics of Production 1916-17 and 1938-39
(2nd and 22nd Industrial censuses)
Note that the figures have not been corrected for changes in value of currency

of clothing and textiles increased by 620% while the output of engineering and metal industries rose by 436%. The manufacture of wooden goods, foodstuffs and chemicals also showed significant increases.

The war period,1938-39 to 1945-46, was one of rapid increase in industrial output far exceeding that which occured during the previous war. At this point in the history of the development of the country industry was far more advanced, and the country had far more men under arms to be fed, clothed and equipped, while Britain, because of great distances between the different theatres of operations, was unable to provide for the South African Forces as it had in 1914-18. Thus South African industry was forced to adjust rapidly to a greatly expanded market, and become as self-sufficient as possible.

Consequently, between 1938-39 and 1945-46 nett output of the Union industries increased two and a half fold while that of the western Cape industries doubled. Nevertheless the percentage of the total labour force employed in the western Cape remained the same, 16,5%, indicating a considerable increase in productivity per unit of labour throughout the Union. (Table 12)

Despite improved productivity, the nett industrial output of the western Cape, relative to the Union as a whole, dropped by 3,5% from 18,6% to 15,1%. (Table 8 and 12) On the other hand productivity increased in the Durban-Pinetown and Port Elizabeth-Uitenhage areas; in the former nett output more than doubled, from R30 126 800 to R48 921 600, and in the latter it increased by more than half from R13 094 400 to R20 766 500.

The five war years confirmed the southern Transvaal in its role of leading manufacturing area in the country, nett output increasing from R81 028 400 in 1938-39 to R119 612 800 in 1941-42 and to R184 339 800 in 1945-46. These sums accounted for 44%, 46,7% and 40,9% of the Union's total output. The manufacturers of arms and ammunition at the Mint in

TABLE 12[1]

Regional Distribution of Industries

(All Industries)

| | 1945-46 | 1948-49 | 1958-59 |
|---|---|---|---|
| **Cape Western** | | | |
| Value of Gross output (R000) | 143 059 | 232 969 | 493 720 |
| % of Union total | 14,6 | 17,2 | 17,2 |
| Value of Nett output (R000) | 68 018,4 | 105 938,6 | 204 072 |
| % of Union total | 15,1 | 17,8 | 18,1 |
| No. of employees (000) | 86,6 | 110,3 | 124 814 |
| % of Union total | 16,5 | 16,4 | 16,5 |
| **Port Elizabeth** | | | |
| Value of Gross output (R000) | 46 738,5 | 117 084,8 | 130 867 |
| % of Union total | 4,7 | 7,7 | 4,5 |
| Value of Nett output (R000) | 20 766,5 | 42 312,6 | 53 147 |
| % of Union total | 4,6 | 7,0 | 4,5 |
| No. of employees (000) | 23,8 | 39,9 | 35,3 |
| % of Union total | 4,5 | 6,0 | 4,6 |
| **Durban-Pinetown** | | | |
| Value of Gross output (R000) | 108 302,4 | 180 930,2 | 407 453 |
| % of Union total | 11,0 | 13,4 | 14,1 |
| Value of Nett output (R000) | 48 921,6 | 76 399,8 | 143 721 |
| % of Union total | 10,9 | 12,9 | 13 |
| No. of employees (000) | 58,9 | 74,5 | 88,2 |
| % of Union total | 11,3 | 11,2 | 11,6 |
| **Southern Transvaal** | | | |
| Value of Gross output (R000) | 365 796,0 | 568 139,8 | 1 305 369 |
| % of Union total | 37,2 | 42,1 | 45,4 |
| Value of Nett output (R000) | 184 339,8 | 272 646,4 | 576 968 |
| % of Union total | 40,9 | 45,7 | 48,8 |
| No. of employees (000) | 233,4 | 294,8 | 349,3 |
| % of Union total | 44,9 | 44,1 | 46,2 |
| **Rest of Union** | | | |
| Value of Gross output (R000) | 319 348,7 | 249 980 | 533 966 |
| % of Union total | 32,4 | 18,6 | 18,6 |
| Value of Nett output (R000) | 127 572,6 | 108 289 | 204 247 |
| % of Union total | 28,5 | 18,3 | 17,2 |
| No. of employees (000) | 96,9 | 148 | 157,2 |
| % of Union total | 18,7 | 22,1 | 20,8 |

(1) Statistics of Production 1945-46, 1948-49 and 1958-59 (29th, 32nd and 42nd Industrial Censuses)

Pretoria and at Iscor partially accounted for the large Transvaal share of the Union's total in 1941-42.

As a result of these increases in the value of nett output in the Pretoria-Witwatersrand-Vereeniging (PWV) area the contributions of Durban-Pinetown and Port Elizabeth-Uitenhage to the national total dropped slightly from 12,2% to 10,9% and 5,7% to 4,6% respectively. That of the western Cape remained static at 16,5%

Manufacturing output in the rest of the Union increased from a nett value of R35 954 800 in 1938-39 to R127 572 600 in 1945-46 from 19,5% to 28,5% of the Union total although the increase in the labour force declined from 24,7% to 18,7% showing that productivity per unit of labour employed had increased. In 1938-39 a labour force of 87 000 was responsible for a nett output of R35 954 800, in 1945-46 a force of 96 900 produced a nett output of R127 572 600, an increase of nearly R92 million. (Tables 8 and 12)

Increases in production outside the "industrial areas" recognised by the Census in the period 1938-39 and 1945-46 were largely the result of war production. The greatest increases occured in the production of foodstuffs, required by a local market cut off from outside supplies, and the greatly increased South African and allied armed forces.

Production increased in all industrial regions in South Africa in the decade 1940-50. The greatest occured in the southern Transvaal where nett output increased by 48,9%, this region being responsible for nearly half the total nett industrial output of the whole country. (Table 13) The engineering and metal working industry alone accounted for 28,8% of the nett output of the southern Transvaal.

An important post-war development occured in the textile and clothing industry. This did not follow the pattern expansion normal in developing countries where the spinning and weaving of cloth usually precedes the manufacture of clothing, for industrial development in South Africa took

place during a period of acute world-wide economic depression, when it was more economical to import textiles from countries with established textile industries than to manufacture them. During this period the clothing industry was being encouraged by government agencies to increase production and cheap textiles were essential for this development.

TABLE 13[1]

Increase in Nett Output of Private Industries

| | 1940-50 % | 1950-60 % |
|---|---|---|
| Southern Transvaal | 48,9 | 34,0 |
| Cape Western | 17,9 | 15,6 |
| Durban-Pinetown | 13,3 | 10,1 |
| Port Elizabeth | 8,2 | 1,4 |
| Rest of Union | 11,7 | 35,2 |



Between 1945 and 1954 thirty-seven textile mills were established by foreign firms, while the Good Hope mill at Zwelitsha (King Williamstown) and the Fine Wool Products mill at Uitenhage were developed by the Industrial Development Corporation. In 1963 an artificial fibre factory was built near Cape Town.

In the last few decades artificial fibres have flooded world markets and a measure of tariff protection has had to be afforded to the local industry. Competition by South African textile industries in world markets has been further hampered by "its high wage structure, the low

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(1) Statistics of Production op.cit.

productivity per operative (caused by rapid turnover of labour) and the fact that industrial legislation limits the employment of females to day time shifts." (1) But the rapidly expanding clothing industry provides an adequate local market for South African manufactured textiles.

Industrial growth continued in the period 1949-50 to 1954-55. The labour force increased by nearly 200 000 from 618 179 in 1949-50 to 804 786 in 1954-55. The nett output of the manufacturing sector increased from R590 800 to R1 042 000. (Table 14)

TABLE 14(2)

Industrial Development in South Africa

(1945-46 - 1959-60)

| | 1945-46 | 1949-50 | 1954-55 | 1959-60 |
|---|---|---|---|---|
| Number of Establishments | 10 885 | 14 308 | 16 548 | 14 185 |
| Fixed capital (R000) | 288 300 | 554 400 | 308 700 | |
| Number of employees | | | | |
| Total - Whites + non-whites | 456 946 | 618 179 | 804 786 | 754 855 |
| Whites | 144 065 | 191 291 | 220 567 | 188 345 |
| Non-Whites | 312 881 | 426 888 | 584 219 | 420 464 |
| Value of Gross output (R000) | 756 000 | 1 380 208 | 2 557 200 | 2 871 300 |
| Nett output (R000) | 349 600 | 590 800 | 1 042 000 | 1 182 100 |

Growth in the manufacturing sector began to slow down in the period 1950-60 as the impetus provided by the war decreased. In the southern Transvaal the increase in nett output was 34% for the period 1950-60,

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(1) M. Cole: South Africa p.451

(2) Statistics of Production 1945-46, 1949-50, 1954-55, 1959-60 (29th, 33rd, 38th and 43rd Industrial Censuses)

a decline of 14,9% compared with the figures for the previous decade. In Port Elizabeth-Uitenhage nett increase amounted to 8,2% in the period 1940-50, but only 1,4% in the decade 1950-60. Decreases in the Durban-Pinetown and western Cape areas were smaller.

The contribution to the total nett output of manufacturing in South Africa by industries in the "rest of the Union" decreased from 28,5% in 1945-46 to 17,2% in 1958-59. On the other hand there was an increase in nett output from industries in the "rest of the Union" between 1940-50 of 11,7% and between 1950-60 of 35,2%. (Tables 12 and 13)

The value of locally produced raw material used in manufacturing in South Africa increased from R20 048 000 in 1915-16 to R494 292 000 in 1949-50; when the first industrial census was taken in 1915-16, 44,4% of the materials used were locally produced. This figure rose to 58,6% in 1949-50. (Table 15)



TABLE 15[1]

Value and origin of industrial raw materials
(all industries)

| | 1915-16 R 000 | 1920-21 R 000 | 1929-30 R 000 | 1939-40 R 000 | 1949-50 R 000 |
|---|---|---|---|---|---|
| All Materials | 44 630 | 115 912 | 113 604 | 220 502 | 844 590 |
| % of total | 100 | 100 | 100 | 100 | |
| Imported Materials | 24 582 | 63 008 | 57 610 | 102 742 | 350 298 |
| % of total | 55,5 | 54,7 | 50,8 | 45,2 | 41,4 |
| S.A. Materials | 20 048 | 52 904 | 55 994 | 117 760 | 494 292 |
| % of total | 44,4 | 45,3 | 49,2 | 54,8 | 58,6 |

(1) Statistics of Production 1915-16, 1920-21, 1929-30, 1939-40, 1949-50 (1st, 6th, 15th, 23rd and 33rd Industrial Censuses)

The value of all raw material used in industry increased from R44 630 000 in 1915-16 to R115 912 000 in 1920-21. Thereafter the value of all raw materials used declined to R113 604 000.in 1929-30. This decline was relative as a decrease in prices of raw materials, notably raw materials of agricultural origin, caused a decline in the value of materials consumed in this period.

Between 1939 and 1956 the national income increased fourfold, industry contributing a large part. Between 1919 and 1939 the value of output of both the mining and secondary industries rose steadily. The contribution of the agricultural industry declined as a result of the depression, when the prices of agricultural produce, particularly maize and wool, decreased considerably. The contribution to the national income by secondary industry continued to increase after 1945. Prices for agricultural produce also improved so that this industry also increased its contribution. The apparent decrease in the contribution of the mining industry to the national income is the result of the price of gold remaining static at 35 dollars an ounce, while mining costs continue to escalate.

In the period 1919 to 1969 the value of imports rose from R100 million to R2 138 million, while exports rose from R200 million to R1 537 million.[1] Prior to 1939 the major exports from South Africa were gold, diamonds, wool and other agricultural produce. Since the end of the Second World War the pattern has begun to change as a result of the growth of the export trade of locally manufactured goods.

Changes in the pattern of imports into South Africa indicate changes in the industrial structure of the Republic since 1939. Large quantities of textiles, but few items of clothing, have entered the country; and certain types of machinery, vehicles and some types of special steels are

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(1) Bureau of Census and Statistics

also imported and vastly increased oil imports indicate great industrial growth. Clothing, other manufactured goods and canned foods and jams formed important exports, particularly to the countries to the north of the Limpopo.

For the period of the four war years, 1939-1945, the country had been deprived of many consumer goods. In industry much capital equipment had become obsolete and worn out. Therefore at the close of the Second World War there was a great demand for imported consumer goods and large funds were available for their purchase, the Reserve Bank, at the end of 1945, holding gold and foreign exchange to the value of R534 000 000, and the annual output of the gold mines was of the order of R2000 000 000.

Consequently imports soared in the immediate post-war years from R224 000 000 in 1945 to R424 000 000 in 1946, R606 000 000 in 1947 and R708 000 000 in 1948. Despite a capital inflow of R182 000 000 over these years, this constituted an excessive drain on reserves and made imperative the imposition of import control measures. As a result of these measures the adverse balance of payments was reduced from R444 000 000 to R184 000 000 in 1948. Reserves rose by R16 000 000.[1]

The effect of import control was to reduce the inflow of non-essential consumer goods without curtailing that of capital equipment and raw materials for industry. This in turn had a four-fold effect upon the economy: expenditure of foreign currency reserves was reduced, local industries were encouraged to manufacture more goods for the local market, and many items which had never been produced in South Africa before now entered the market from local industries, but the reduction in the amount of consumer goods in circulation led to increased inflation, which the authorities attempted to contain by applying strict credit control measures and

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(1) Bureau of Census and Statistics op.cit.

placing high interest rates on borrowed money. This latter imposition led to a further inflow of foreign capital.

The results of these measures was remarkable. In the decade 1946 to 1956 coal production in South Africa increased from 26 million tons to 36 million tons, while the output of electric power was doubled. Several new basic industries were established including an oil-from-coal plant at Sasolburg, and textile, woodpulp and paper mills. Exports increased more than three-fold from R264 000 000 in 1948 to R826 000 000 in 1956. In the same period imports increased by less than 40%, from R708 000 000 in 1948 to R988 000 000 in 1956. The measures were so effective that by 1957 only about 10% of the imports remained subject to controls.(1)

Import controls have since been reimposed, but for reasons different from those which necessitated control in 1948. It remains to be seen if this method of curbing inflation and correcting the ills in the economy in 1972 will be effective.

In 1960 the Board of Trade and Industries recommended that the Government take steps to encourage the use of locally manufactured components in motor vehicles. The implementation of this recommendation would effect large savings of foreign exchange; would encourage the development of the motor vehicle industry in South Africa; would lead to an export market and stimulate the economy. The Board noted that the required skills and cheap steel were available in the country. As a result, the Government instituted a Local Content Programme with the object of assuring that by 1977 more than 66% of the materials used in locally assembled cars should be manufactured in South Africa.

Local content regulations have stimulated the vehicle component industry. Before their introduction only components in frequent demand . .

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(1) Bureau of Census and Statistics op.cit.

as replacements were manufactured, e.g. tyres, batteries and glass, while later the manufacture of such components as seat springs, carbon black and tyre fabric were included. In 1961 total investment in component industries amounted to about R15 000 000 but by 1971 it had increased to about R100 000 000. Under tariff protection, components produced now include batteries, brake drums, wheel hubs, propellor shafts, radiators, wheels, spark plugs, seat frames, steering wheels, windscreen wiper blades, arms and motors, as well as many smaller items and accessories.

The motor assembly industry had its origins in South Africa at Port Elizabeth. In the second decade of this century vehicles were imported CKD (completely knocked down) and as Port Elizabeth was the most centrally situated assembly point in the country with regard to ease of access for imports and local markets it was chosen as an assembly centre. In January 1924 the first "Model T" Ford was assembled in a one-time wool store in Port Elizabeth. By the end of the year 1 446 vehicles had been assembled.[1] Two years later, General Motors established an assembly plant in the same town. By the end of 1924, 13 000 South African assembled and imported vehicles had been sold, but during the ensuing depression the size of the market declined. When the economy recovered vehicle sales increased to 48 000 cars and 9 500 commercial vehicles in 1937 and, as a result of this expanding market, a third assembly plant was established near Johannesburg. Since the end of the Second World War the vehicle industry has continued to expand, so that in 1970 nearly 300 000 vehicles were sold. Of these 68% were assembled in Port Elizabeth, 11% in Cape Town, 8% in East London, 8% in Durban and 3,3% in the Transvaal, although 45,6% of the vehicles were sold on the Transvaal retail market. (Table 16)



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(1) The Standard Bank Review - October 1971

TABLE 16[1]

Regional Distribution of South African Retail Market in all vehicles

| | 1960 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|---|
| Cape Province | 31,1 | 27,5 | 27,2 | 26,0 | 26,0 | 25,7 | 25,4 | 25,1 |
| Natal | 12,0 | 13,6 | 13,7 | 13,6 | 12,9 | 12,9 | 12,6 | 12,7 |
| Transvaal | 45,6 | 47,9 | 48,3 | 49,5 | 50,9 | 52,1 | 52,6 | 52,8 |
| O.F.S. | 8,7 | 8,0 | 7,8 | 8,3 | 7,3 | 6,6 | 6,7 | 6,7 |
| S.W.A. | 2,6 | 3,0 | 3,0 | 2,6 | 2,9 | 2,7 | 2,7 | 2,7 |

While the Transvaal share of the retail market increased between 1960 and 1971 from 45,6% to 52,8% that of the Cape Province declined from 31,1% to 25,1%. The market provided by the Transvaal and the incentives generated by the local content regulations has had a profound effect on the location of the vehicle industry. Nearly all the steel required by the industry is manufactured in the southern Transvaal, while many other essential raw materials are also produced there. The number of assembly plants in South Africa had increased to twenty by 1971. The newly established plants have been in a position to select the most suitable sites under the new conditions. The old established firms have found that in order to compete with the more recently developed assembly plants they have to invest far more capital in buildings and plant than is already tied up in their coastal locations and so have been encouraged to relocate. The Government's policy of establishing industries in Border areas has also attracted plants to the Homeland areas.

Consequently whereas in 1960 there was only one assembly plant in the

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(1) The Standard Bank Review - October 1971

Transvaal, in 1971 there were six, producing about a quarter of all the vehicles manufactured in the country. Nevertheless most of the firms assembling commercial vehicles have remained at the coast, the greatest concentration being in the Durban-Pinetown area, at the eastern end of the Durban-Pinetown-Witwatersrand axis, as for such plants coastal locations remain the most economic because most of the components used in commercial vehicles are still imported.

The bulk of the vehicle manufacturing industry in the Transvaal is situated at Rosslyn about 15 miles north-west of Pretoria. Newcomers must locate elsewhere as the capacity of the Rosslyn area has been reached. Consequently Daihatsu has established its plant at Brakpan, while the Chrysler Corporation has located its new plant to the east of Pretoria on the Lourenço Marques-Pretoria railway, as it is more economical for Chrysler to import truck parts through Lourenço Marques than to assemble trucks in Cape Town, as was formerly done, and rail the finished product to the Transvaal. This was a major factor in persuading Chrysler to close down the remaining parts of its plant in Cape Town in 1971. Thus by 1971 the Durban-Pinetown-Witwatersrand axis had captured almost half the vehicle production market. (Table 16)

In 1971 the contribution of the vehicle industry located in Port Elizabeth had dropped to 41%, that of Cape Town to 7,8%, East London to 4,0%, while that of Durban-Pietermaritzburg had risen to 20,8% and that of the Transvaal to 26%. (Table 17) Eight concerns equipped for building and machining engines had come into existence by 1968, and three well known vehicle manufacturers had established body pressing plants. By 1971 R300 000 000 had been invested in plant by vehicle and component manufacturers.

TABLE 17[1]

Distribution of South African Vehicle Market between Manufacturing Centres

| | 1960 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|---|---|
| Cape Town | 11,0 | 14,2 | 16,5 | 16,0 | 15,0 | 15,3 | 7,5 | 7,9 | 7,8 |
| Port Elizabeth | 68,0 | 62,2 | 58,8 | 57,8 | 54,3 | 50,8 | 49,2 | 45,8 | 41,0 |
| East London | 8,0 | 4,9 | 5,5 | 5,6 | 5,7 | 3,8 | 3,5 | 3,7 | 4,0 |
| Durban-Pietermaritzburg | 8,0 | 13,3 | 9,6 | 10,2 | 12,3 | 12,0 | 15,0 | 17,5 | 20,8 |
| Transvaal | 3,3 | 5,0 | 9,2 | 10,0 | 12,2 | 17,8 | 24,6 | 24,8 | 26,0 |

Legislative measures have been enacted since 1910 which have been aimed at protecting the interests of White labour in industry. Between the two wars a large segment of industry dealt with maintenance and repair work. A highly skilled labour force was required for this work and the White artisan was in great demand. Wages out of all proportion to their productivity were paid to White artisans because this type of labour was in short supply. Bantu and Coloured workers were engaged as manual labourers in most industries and were paid accordingly. An exception to this was the building industry in the western Cape in which large numbers of Coloured artisans were engaged.

The Board of Trade and Industry, in their report No.282 of 1945 on the manufacturing industries of the Union of South Africa, stated that as the agricultural industry had become more organised and mechanised it had tended to use less labour, and had tended to over produce. The Board felt that manufacturing industry should become so organised as to enable it to absorb surplus labour from the agricultural sector, which would then be

(1) The Standard Bank Review - October 1971

used in manufacturing industries as semi-skilled machine minders. It was hoped that this would result in an increase in the buying power of the lower income groups to the benefit of both farming and industrial interests by creating new markets for manufactured goods and absorbing agricultural surpluses. The Board reported that the "optimum allocation of resources requires that each worker shall be employed in a sphere and in the capacity in which he is most productive. Any policy which is not in conformity with this criterion, but which restricts the opportunities of individuals or of sections of the population from utilising their capacities in the fullest measure, must inevitably retard the expansion of production and the growth of the national dividend, the source of all wage payments."(1)
Legislative measures have been enacted which have created conditions diametrically opposed to those cited by the Board as being necessary for the healthy development of industry. These measures have in part been responsible for the slow growth rate in the economy in recent years, as well as protest on the part of some non-White labour. Rapid developments in the industrial sector of the country's economy since the end of the Second World War sometimes made it impossible for manufacturers to comply with "job reservation" restrictions, which created artificial labour scarcities. Industrialists have had to apply to various Government bodies to obtain permits enabling them to employ labour other than that reserved for the particular work. This has led to delays, loss of production and frustration to both employers and employees.

The Physical Planning Act No.88 of 1967 was enacted in order to encourage the decentralisation of industry from the four main centres. It was also designed to encourage the development of industries on the borders of the Homelands. The Act stipulates that only industries that

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(1) Board of Trade and Industries op.cit. p.45

are locality bound or which up to 31st May 1973 had a Bantu/White employment ratio of 2,5 : 1 and after June 1st 1973 had a ratio of 2 : 1 will be allowed to continue production or be established in the four main centres. Section 3 of the Act stipulates that new factories may not engage more Bantu than employed on 18th January 1968 without the permission of the Minister of Planning.

Since its enactment the Act has been modified. In the Report of the Inter-Departmental Committee on the location of Industry of 1971 known as the Riekert Commission it has been stated that for social and economic reasons it would be undesirable to restrict the development of the western Cape, Port Elizabeth-Uitanhage and Durban-Pinetown complexes. Therefore the major contribution to the decentralisation plan, as envisaged by the Act, will have to operate in the P.W.V. region. The Decentralisation Board, having acknowledged the fact that development in the P.W.V. region could not be halted completely, has indicated that any future development must take place in predominantly White labour intensive or locality bound industries.

A number of concessions have been granted to industrialists who have elected to move their factories to the Homelands. These include low rate housing loans for housing key White employees, cash grants to cover costs of moving the factory, low interest rate loans for the purchase of land, reductions in taxes and railway rebates on manufactured goods being sent from the factory.

While in the Port Elizabeth-Uitenhage region, following upon representations made to the Government, additional Bantu labour has been made available to manufacturers who can show that the Coloured labour available is insufficient for their needs, the concession will not apply in the western Cape. The Riekert Commission has stated that "this area (the western Cape) must be looked upon as mainly the employment sphere of

Whites and Coloureds and the industrial development in the area will have to become adjusted to this pattern of supply."

This Act, together with "job reservations", has therefore had the effect of preventing the free flow of Bantu labour from the Homelands to the industrial centres, but as a result new industrial growth has occured in the border areas, notably north of Pretoria.

Changes have occured in the labour pattern of South Africa between 1916, when the first reliable industrial census was taken, and 1972. More and more Whites have left employment in manufacturing for work in tertiary activities.

Between the two World Wars White males in semi-skilled fields were largely replaced by White females. A tendency developed after the Second World War for White females to seek work in shops and offices as counter hands and typists, their places usually being taken by non-White males. As standards of non-White education and living have risen, non-White males, in the Coloured group in particular, have sought "white-collar" jobs, in part as a result of frustrations generated by the monotony of the semi-skilled male operatives' work. Consequently in many light industries, particularly in the Cape, jobs once held by non-White males are being taken over by non-White females. Gradually the non-White females are moving into secretarial posts in commerce, so that more and more use will have to be made of Bantu female labour, particularly in the clothing industry in the western Cape.

Government policy does not allow the free use of Bantu labour in industry. In fact since 1968 only about 77% of the total Bantu labour force requested by industrialists in the western Cape has been allowed to enter the labour market.[1] As a result some types of industry,

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[1] Cape Times - 12th February 1972

notably those requiring a large unskilled labour force for heavy manual work, have not developed in the western Cape. Moreover, some industrial concerns have actually transferred their operations from the western Cape to other industrial centres where Bantu labour is more readily available. (One reason given by the management of the Chrysler assembly plant for moving from its Elsies River plant to a new site near Pretoria was that local Coloured labour was not suitable for the heavy work involved in the motor car assembly industry.)

Industry is dependent to a large extent on skilled White labour, which is not being employed to the extent needed. The Institute of Manpower Research has predicted that unless an annual growth rate of 6% or more is achieved there will be unemployment among the non-White population, but it is pointed out that the South African White manpower supply cannot maintain the growth rate at 6% unless supplemented by an annual inflow of at least 31 000 White immigrants.(1)

A problem that has always beset industrialists in the Republic is the vast distances between the ports and the main inland centres. From Cape Town, Port Elizabeth and East London, the railways to the interior pass through much unproductive territory, which contributes little to the overall running costs of the Railways. This has had the effect of forcing railway tariffs up. As the bulk of locally produced raw materials are obtained in the Transvaal the policy of keeping tariffs on raw materials carried by rail as low as possible has tended to have the undesirable effect of concentrating industry in the southern Transvaal to the detriment of other industrial centres.

In the late nineteen twenties it became apparent that private road transport was threatening to capture remunerative railway traffic. To

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(1) Cape Times - 12th February 1972

counter this the Motor Transportation Act, No.39 1930 was passed. The Act made provision for the establishment of a Road Transportation Board which was to be responsible for the control of road haulage. The National Roads Act, No.42 1935 created a National Roads Board. The Board was to recommend the proclamation of existing roads as National Roads or to recommend the construction of National Roads, if this was considered to be in the national interest. The Board was instructed to prepare a five year road building plan which was to be implemented from 1936. By 1944 some 23 000 miles of all weather roads had been constructed. Since the end of the war most of the country's trunk routes have been tarred.

The Railways Administration has created a fleet of motor buses and dual purpose vehicles to convey passengers and goods between the nearest railhead and areas not directly served by rail. As the economy developed the Administration found that it was unable to cope with the moving of an increasing volume of goods, and therefore private contractors have been licenced to convey an increasing amount of freight by road. Since 1956 coal, coke, cement, sugarcane, grain and milled products, diesel oil, petrol, livestock, fresh fruit and vegetables have been permitted to be transported by private road haulage contractors. Nevertheless, as the Motor Transport Act forbids factory owners from conveying certain raw materials in privately owned vehicles beyond a radius of twenty-five miles from the factory, it has had a stultifying effect on those industries that have found the railway road transport inadequate and inefficient.

# CHAPTER III

## THE DEVELOPMENT OF MANUFACTURING INDUSTRIES IN THE CAPE COLONY AND CAPE PROVINCE 1840 - 1972

### 1840-1920

The first accurate industrial census to be made in Southern Africa was compiled in the Cape Colony in 1840.[1]

Industrial activity in the Cape was confined almost entirely to the processing of locally produced agricultural raw materials. This included fellmongering, chaff cutting, grain milling, tanning, brewing, distilling, the manufacturing of snuff, candles, soap, bricks, saddles and harness, hats, cutlery and cast iron goods. (Table 18)

The degree of industrial development in the Colony in 1840 was not as impressive as the number of industrial establishments might suggest. Most of them were small and were located either on farms where locally produced raw materials were processed for home consumption or in villages scattered throughout the Colony. There were 22 clothing concerns which manufactured hats for "farmers and similar people" but these were of poor quality.

By 1860 the number of corn crushing mills had doubled and 14 wool washeries had been established in villages[2] in the eastern Cape.

By 1885 the number of corn mills had declined considerably, but the numbers of concerns manufacturing wooden, metal and leather goods had all increased. The preparation of foodstuffs had become most important for by this date 213 bakeries, 28 flour mills and 25 jam factories had been established. Printing and publishing had also increased in importance

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(1) The Cape of Good Hope Blue Book 1840, 1860 and 1885

(2) Uitenhage 2; Port Elizabeth 3; Victoria East 2; Cradock 4; Colesburg 2; Aliwal North 1

TABLE 18[1]

Number of industrial establishments in the Cape Colony

1840, 1860 and 1885

| | Class of Industry | Establishments 1840 | 1860 | 1885 |
|---|---|---|---|---|
| I | Chaff cutting, grain milling, wool washing and fellmongering | 201 | 437 | 29 |
| II | Processing of stone and clay | 40 | 75 | 123 |
| III | Working in wood | - | - | 54 |
| IV | Metals and engineering | 1 | 7 | 99 |
| V | Preparation of foodstuffs, beverages and tobacco | 19 | 47 | 398 |
| VI | Clothing and textiles | 22 | 18 | 14 |
| VII | Printing | - | 2 | 80 |
| VIII | Vehicles | - | - | 18 |
| IX | Boat building | - | - | 11 |
| X | Furniture | - | - | 3 |
| XI | Chemicals, soap and candles | 5 | 10 | 4 |
| XII | Cutlery | 1 | 1 | - |
| XIV | Heat, light and power | - | 1 | 2 |
| XV | Leather and leatherware | 97 | 35 | 261[2] |

(1) The Cape of Good Hope Blue Books 1840, 1860, 1885

(2) This includes 115 concerns making footware, which probably included a large number of shoemakers

there being 80 presses in the Colony, of which 74 were newspaper concerns.[1]

By the time of Union industrial activity in the Cape Province had advanced but little and remained confined to the processing of agricultural raw materials, wagon building, blacksmithing and harness making.

The outbreak of the Frist World War had a profound effect on the development of industry in the south western Cape Province. Between 1915-1916 and 1916-1917 industrial activity was stimulated as supplies from oversea were cut off and local industry was free to develop without oversea competition, but between 1916-17 and 1918-19 the rate of industrial development began to decline because of difficulties encountered by industrialists in obtaining raw materials from outside sources as a result of the intensification of the U-boat campaign. Local industrialists continued to retain some advantages for a brief period after the cessation of hostilities when raw materials once more became readily available before the industries of Europe had recovered from war-time devastation or returned to peace-time production. (Table 19)

The number of industrial establishments increased considerably between 1912 and 1919 (Table 20); the number of furniture factories increasing from 3 to 15, printing works increasing by 15 and wagon building and associated concerns also increasing in number. Expansion in other established industries also occured, brickmaking (11 concerns), clothing (9) and food canning (6).

1918-1925

After 1920 competition from overseas resulted in a decline in the number of manufacturing establishments in the Cape Peninsula[2] from 1 160 in 1920-21 to 1 148 in 1921-22.

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(1) 42 English, 21 English and Dutch, 8 Dutch, 1 German, 1 Kafir and 1 Kafir and English newspaper. Of these 10 were dailies, 7 appeared three times a week, 13 twice a week, 42 once a week and 1 once a month. (Blue Book of the Cape Colony 1885)

(2) Cape Town, Woodstock, Wynberg, Simonstown, Durbanville, Stellenbosch, Somerset West, Paarl, Wellington, Malmsbury, Hopefield - subsequently renamed Cape Western

TABLE 19[1]

Growth of manufacturing in the Western Cape Province

1915-16 to 1918-19

| | 1 | 2 | 3 | 4 | |
|---|---|---|---|---|---|
| | | Annual increase | | | Overall Increase |
| | 1915-16 | 1916-17 | 1917-18 | 1918-19 | 1915-1920 |
| | % | % | % | % | % |
| No. of establishments | 32,7 | 11,6 | 0,8 | 15,4 | 72 |
| Value of land & buildings | 18,2 | 9,4 | 6,9 | 14,0 | 59 |
| Value of machinery, etc. | 13,3 | 11,3 | 5,4 | 12,0 | 62 |
| No. of employees: European | 16,6 | 8,3 | 7,4 | 16,6 | 59 |
| Other | 26,1 | 8,4 | 6,2 | 26,3 | 90 |
| Salaries & wages paid to: | | | | | |
| Europeans | 15,1 | 16,2 | 18,7 | 30,0 | 139 |
| Others | 23,2 | 19,8 | 17,4 | 38,1 | 168 |
| Horse power of engines | 7,1 | 32,6 | 6,4 | 4,7 | |
| Cost of fuel, etc. | 19,3 | 27,3 | 9,1 | 20,9 | 124 |
| Value of materials used: | | | | | |
| South African | 37,0 | 29,9 | 22,5 | 30,7 | 164 |
| Other | 16,3 | 14,8 | 16,8 | 31,9 | 156 |
| Value added to material by process of manufacture | 18,3 | 23,9 | 12,6 | 30,6 | 123 |

(1) Statistics of Production 1915-16; 1916-17; 1917-18; 1918-19 (1st, 2nd, 3rd and 4th Industrial Censuses)

TABLE 20[1]

Numbers of certain classes of industrial establishments in the western Cape Province 1912 - 1919

| | 1912 | 1919 | Increase |
|---|---|---|---|
| Wagon builders | 10 | 24 | 14 |
| Blacksmiths | 26 | 52 | 26 |
| Harnessmakers | 12 | 23 | 11 |
| Printing | 37 | 52 | 15 |
| Furniture | 3 | 15 | 12 |



Four of sixteen industries categorised in the Industrial Census for 1920, the manufacturing of clothing and furniture, ships and boatbuilding and repairing, and the paper and printing industry all exhibited a tendency towards concentration in the western Cape, the location quotients of the first three ranging from 2,1 to 2,3 while that of paper and printing was 1,8. (Table 21)

The location quotients for shipbuilding and repairing (2,3), furniture (2,1), clothing (2,1), the processing of foodstuffs and drink (1,3), chemicals (1,3) and leather (1,2), all show the effect on industry of the immediate post war boom.

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(1) Statistics of Production 1918-19 (4th Industrial Census)

TABLE 21[1]

Numbers and percentages of workers employed

in eight western Cape industries

and the location quotients for those categories

| | Woodworking | Processing of foodstuffs & beverages | Clothing & textiles | Paper & printing | Ship & boat-building & repairing | Furniture & Cabinetmaking | Chemicals | Leather & leatherware |
|---|---|---|---|---|---|---|---|---|
| 1920 | | | | | | | | |
| Numbers employed | 1 352 | 7 742 | 3 165 | 2 304 | 78 | 1 465 | 2 195 | 1 523 |
| Percentage of workers in each industry to all workers | 20,5 | 23,5 | 37,4 | 32,4 | 41,9 | 38,4 | 23,9 | 23,1 |
| *Location quotient | 1,1 | 1,3 | 2,1 | 1,8 | 2,3 | 2,1 | 1,3 | 1,2 |
| 1925 | | | | | | | | |
| Numbers employed | 964 | 7 309 | 3 079 | 2 651 | 72 | 1 841 | 2 853 | 1 498 |
| Percentage of workers in each industry to all workers | 20,8 | 22,5 | 31,2 | 35,7 | 62,6 | 38,8 | 35,7 | 20,7 |
| *Location quotient | 1,1 | 1,2 | 1,7 | 1,9 | 3,4 | 2,1 | 1,9 | 1,1 |

* The Location Quotient or LQ is calculated from the following formula:

$$\frac{\frac{w}{W}}{\frac{WP}{WU}}$$

where w = the number of employees in a given industrial category in each industrial region

W = the number of employees in that category in the whole country

WP = the total number of employees in all industries in an industrial region

WU = the total number of employees in all industries in the country

(1) Statistics of Production (6th Industrial Census)

The position had scarcely changed by 1925. The location quotient for the clothing industry showed a marked decline (2,1 to 1,7) because the industry was affected by the development of the industry in the Transvaal and the number of employees in the food processing industry declined slightly but the location quotient remained high (1,2). There had been a slight decline in the numbers employed in the woodworking industry, but as the percentage employed in the western Cape increased fractionally, the location quotient remained the same (1,1). The printing, shipbuilding and repairing and furniture industries all expanded.

Changes had begun to occur in the labour structure of South African industry. Between 1920 and 1922 the total number of White males employed in industry in the western Cape declined from 10 111 to 9 649 but in 1924 rose again to 11 323 as a result of the introduction in that year of the government's "civilised labour" policy.



TABLE 22[1]

Numbers employed in industrial establishments in western Cape according to sex and race
1919-1925

| | 1919-20 | 1924-25 |
|---|---|---|
| Number of Workers (000) all races | 31,6 | 34,9 |
| White males | 9,7 | 11,3 |
| White females | 1,6 | 1,8 |
| Coloured males | 15,6 | 17,2 |
| Coloured females | 4,6 | 4,5 |

(1) Statistics of Production (5th and 10th Industrial Censuses)

The total number of women employed in industry in the western Cape declined by 200 in 1921 and rose again by 400 in 1922. In 1922 an increasing number of Coloured women was employed, but the total number of White women employed decreased. In 1923 and 1924 the number of Coloured women employees again decreased, while the number of Whites began to rise, and by 1925 exceeded the level of employment in 1920. (Table 23)

TABLE 23(1)

Numbers of women employed in western Cape industry according to race 1919-25

| | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24 | 1924-25 |
|---|---|---|---|---|---|---|
| White | 1 600 | 1 491 | 1 444 | 1 468 | 1 622 | 1 849 |
| Coloured | 4 623 | 4 519 | 4 716 | 4 439 | 4 289 | 4 534 |



TABLE 24(2)

Number of establishments, number of workers employed; in western Cape nett value of output and total H.P. used in western Cape 1919-25

| | 1919-20 | 1924-25 | Increase Between 1920-1925 % |
|---|---|---|---|
| Number of establishments | 1 100 | 1 174 | 6,7 |
| Number of workers: | | | |
| All races (000) | 32 | 35 | 9,0 |
| Whites (000) | 12 | 13 | 8,3 |
| Non-Whites (000) | 21 | 22 | 4,8 |
| Nett value of output (R000) | 15 230 | 18 580 | 12,2 |
| Total H.P. used | 37 722 | 55 401 | 44,6 |

(1) Statistics of Production (5th, 6th, 7th, 8th, 9th & 10th Industrial Censuses)
(2) Ibid

Because of insufficient tariff protection local industries were suffering as a result of competition from overseas. In Europe industry had recovered after the war and ready made clothes were being dumped on the local market to the detriment of those sections of the clothing industry which produced cheap, ready-to-wear clothing, although manufacturers of high class clothing found current tariff protection satisfactory.

Views on the effectiveness of tariff protection and wages paid in the clothing industry varied considerably. One manufacturer reported that, "All our business in manufacturing has been exclusively done in competition with oversea firms. We consider the year under review the first whereupon one could point to the effect of the Government's policy of allowing the bulk of our raw materials to come in duty-free. The year's trading shows clearly that we can hold our own in competition with the best and oldest established foreign firsm and, left alone, we are on the threshold of startling development. But the margin is fairly narrow between oversea and South African prices - we should say about 10% in favour of the latter."(1) According to the report the training of staff presented the greatest difficulty. Furthermore manufacturers complained that employees were paid wages that were between 50% and 80% higher than those paid to their counterparts in England, whence stemmed the greatest competition which this industry experienced.

On the other hand another clothing manufacturer stated that his factory was being closed because "after we pay duty on the raw material the nett protection amounts to 9 percent against the oversea manufacturer and we are not in a position to compete. Although the wages paid to employees in this industry in South Africa are starvation wages, one

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(1) Statistics of Production 1925-26 (11th Industrial Census 1927)

cannot conduct a large factory with dissatisfied employees, particularly when with these low wages one cannot compete."[1]

Local manufacturers also had their problems. The firm of E. Jacobs, established in Bristol, manufactured boots for the Welsh miners and, when the gold mines were opened up in South Africa, had begun exporting heavy duty boots to the Transvaal. The establishment of Searle's boot and shoe factory in Cape Town put an end to this trade because E. Jacobs could not compete in a tariff protected footwear market. E. Jacobs had also exported shirts to South Africa which were made by a variety of firms and were landed at prices as low as from 75 cents to R2 per dozen. In order to replace their now defunct boot trade E. Jacobs established the Monatic shirt manufacturing firm in Wynberg in 1926. High quality garments were made but, because wages were high and protective tariffs low, difficulties were encountered in competition with oversea firms. Representations were made to the Government to raise protective tariffs but without success, because of vested interests with influence in high places. J.W. Jagger, a Cabinet Minister and large scale wholesaler, was opposed to the establishment of clothing factories in the country because J.W. Jagger and Company not only imported shirts and ready made clothing, but were also agents for the shipping lines carrying the goods, thus reaping monetary rewards from two sources.[2]

The leather industry was also experiencing difficulties. The First World War had enabled the local boot and shoe industry to become almost self-sufficient. Importers of shoes produced oversea had tended to over order in the hopes that at least a part of their orders would be fulfilled. When the war ended many of these orders were completely fulfilled with the

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(1) Statistics of Production 1925-26 (11th Industrial Census 1927)

(2) Edgar Jacobs: personal communication

result that the imported article began to undersell the locally produced shoe, so that in 1920 the industry found itself in the throes of a slump. A measure of protection was afforded the industry by Proclamation 84 of 1921, which divided footwear into two classes, goods which could be manufactured in South Africa and goods which had to be imported. The importation of the former was effectively banned by the refusal of the Government to issue import licences for these products. A 30% ad valorum duty was levied on imported footwear but rising labour costs reduced the effectiveness of these protective measures, with the result that between 1920 and 1925 the percentage of workers employed in the leather industry had declined from 23,1 to 20,7 (Table 21). On the other hand, the ship and boatbuilding and repairing, paper and printing, and chemical industries, virtually immune to overseas competition, expanded between 1920 and 1925.

Employment in the shipbuilding and repairing industry increased by 20,7%, in the chemical industry by 11,8% and in the printing industry by 3,3% and in furniture making there was also a slight improvement. The larger printing concerns were beginning to benefit because paper and ink were allowed into the country free of duty, while tariffs were placed on imported manufactured stationery. (Table 21)

The period 1920-25 was one of gradual industrial growth in most sectors following the end of World War 1. There was a particularly sharp upsurge in 1921, followed by two years of slight recession, during which local industry had to adjust itself to the fact that European industry was getting back onto its feet, and with its far greater output, experience and large-scale operations, was easily able to undercut the still infant industry of South Africa. Following the passage of the Customs Tariff Amendment Act of 1925 protection was extended to a wider range of manufactured goods and again industrial output began to increase. In the western Cape area the nett value of output increased each year from

20,28% in 1920 to 22,98% in 1929. As Hurwitz and Williams have stated, "Modern manufacturing in South Africa began, largely in terms of assembly, at the former centres (the ports) and afterwards spread to the latter." (the inland centres)[1]

1925-1930

Most of the western Cape industries had become viable by 1925 and by 1930 considerable expansion had taken place. Increasing mechanisation and larger and more efficient units had resulted in a small increase in the number of establishments (57) and the threefold increase in power consumed in the western Cape in the period 1926-29. The value added to materials during manufacture increased from R18 580 000 to R23 680 000 (12,7%) (Tables 25 and 26)

The report of the Industrial Census of 1929 states that industrialists were generally satisfied with conditions. The report maintained that high railway tariffs often made production of certain articles impossible because overseas similar goods were produced more cheaply which enabled them to stand the high cost of transport to the interior. Furthermore, a local jam manufacturer commented that because the fresh fruit market oversea had improved, there was an increase of fruit available for the jam factories, as only the best grades were exported. He was doubtful whether this surplus could be economically converted into jam because the local White market was limited. He suggested that jam could be sold to the mines for consumption by Bantu Labour at 3d or 3¼d. A new market would then be opened, but the railways freight rate was 72d per 100 lb., i.e. ¾d per lb. making the sale of jam on the Witwatersrand at 3d or 3¼d a pound uneconomic.

Oversea competition adversely affected the clothing and footwear industries. The footwear industry was particularly affected by great

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(1) Hurwitz and Williams: The Economic Framework of South Africa p.112

TABLE 25[1]

Number and percentage of workers employed in eight industrial categories in western Cape and location quotients

1925

| | III | V | VI | VII | IX | X | XI | XV |
|---|---|---|---|---|---|---|---|---|
| | Woodworking | Processing of foodstuffs & beverages | Clothing & textiles | Paper & printing | Ship & boat-building & repairing | Furniture & Cabinetmaking | Chemicals | Leather & leatherware |
| Numbers employed | 1 066 | 8 239 | 5 189 | 3 358 | 106 | 2 224 | 1 898 | 1 494 |
| Percentage of workers in each industry to all workers | 19,2 | 22,4 | 36,6 | 35,8 | 59,9 | 35,3 | 22,4 | 18,8 |
| Location quotients | 1,0 | 1,2 | 1,9 | 1,9 | 3,2 | 1,9 | 1,2 | 1,0 |



TABLE 26[2]

Number of establishments, number of workers employed nett value of output and total H.P. used in western Cape

1925 - 29

| | 1925-26 | 1928-29 | Increase Between 1926-29 % |
|---|---|---|---|
| Number of establishments | 1 204 | 1 261 | 4,7 |
| Number of workers employed (000) | | | |
| All races | 37 | 43 | 16,0 |
| Whites | 15 | 17 | 13,0 |
| Non-Whites | 22 | 24 | 9,0 |
| Value added to materials (R000) | 18 580 | 23 680 | 12,7 |
| Total H.P. used | 55 401 | 100 065 | 80,6 |

(1) Statistics of Production (11th, 12th and 13th Industrial Censuses)

(2) Ibid

fluctuations in the price of leather and dumping of large quantities of well made shoes in the country by Bata of Czechoslavakia. The Wage Board was also blamed because its determinations forced employers to pay wages between a third and a half higher than those paid to employees in Britain and in Continental countries.

One interesting comment sheds light on other causes of the chronic malaise of the leatherware industry. An industrialist reported that "The shops in South Africa are, however, not so prejudiced against our goods as formerly, and when we become more efficiently organised we may do a little better."(1)

Problems which arose during these adolescent stages of industrial development were, strong competition from efficiently organised foreign mass production enterprises, in some cases insufficient tariff protection, high wages, inefficient labour, high railway tariffs, and a general lack of technical knowledge on the part of industrial management.

1930-1933

During the Great Depression, in order to reduce State expenditure, no industrial census was undertaken in the years 1930-31. Between 1929-30 and 1932-33 the number of establishments declined by 98, 6 964 employees of all races became unemployed, and the value added to materials dropped by R4 882 000. Retrenchment in the non-White labour force amounted to 5 929 (24,6%) but only 135 (0,8%) of the White force were laid off - the number of White women employed increasing by 25,2% from 3 388 in 1928-29 to 4 242 in 1932-33 and compensating partially for the White males laid off. Nevertheless, industry continued to become increasingly mechanised, the total horse power used increasing by 25 012 H.P. (28,6%) (Tables 27 and 28)

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(1) Statistics of Production (13th Industrial Census 1929 p. xvii
My italics

TABLE 27[1]

Number of establishments, number of workers employed nett value of output and total H.P. used in western Cape 1929 - 33

| | 1929-30 | 1932-33 | 1929-33 | Change 1929-33 % |
|---|---|---|---|---|
| Number of establishments | 1 318 | 1 220 | - 98 | - 7,4 |
| Number of workers: | | | | |
| All races | 41 810 | 34 846 | - 6 964 | -16,3 |
| Whites | 17 718 | 16 583 | - 135 | - 0,8 |
| Non-Whites | 24 092 | 18 163 | - 5 929 | -24,6 |
| Value added to materials (R000) | 24 636 | 19 754 | - 4 882 | -10,9 |
| Total H.P. used | 87 224 | 112 236 | +25 012 | +28,6 |

TABLE 28[2]

Number of White and non-White males and females employed in western Cape 1928 - 33

| | 1928-29 | 1929-30 | 1932-33 | Change 1928-33 % |
|---|---|---|---|---|
| White males | 14 336 | 14 312 | 12 341 | -13,7 |
| White females | 3 388 | 3 406 | 4 242 | +25,2 |
| Non-White males | 19 329 | 18 669 | 12 979 | -32,8 |
| Non-White females | 5 467 | 5 423 | 5 184 | 5,1 |

(1) Statistics of Production (15th and 16th Industrial Censuses)
(2) Ibid (14th, 15th and 16th Industrial Censuses)

Hobart Houghton has noted that the number of White workers in industry increased in the period 1930-33 and has claimed that this "anomalous increase in the number of White workers is explained by the Government's so-called "civilised labour policy"....."[1] This is misleading, as during this period the number of White workers in three of the four main industrial centres, Cape Western, Port Elizabeth and Durban, actually declined, but there was an increase in the Transvaal, where Iscor had been established in 1928. In all centres, with the exception of the private sector in the southern Transvaal where there was an increase of 825, the number of White males employed by industry declined. There was an increase in the employment of White females in all centres in fields in which they could perform the work of skilled males, but at lower wages.

In the years following the depression a change occured in growth patterns. Between 1932 and 1934 nett output of industries in the western Cape declined from 21,44% to 18,87% while that of the southern Transvaal, with the gold mines, the largest single market in the country, a versatile labour force, adequate power, and sources of raw materials for its industries rose in the same period from 39,7% to 43,19%.

1933-1939

The post depression years showed the remarkable resilience of local industry. Although Tables 26 and 29 show that the location quotients of the woodworking, food processing, clothing and furniture industries in the western Cape all declined slightly in this period because during the depression employment figures for White artisans rose in the southern Transvaal, nevertheless the total numbers employed in industry in the western Cape rose as industry developed. The number of non-White males employed increased to 15 411 in 1934 (15,8%), non-White females to 6 071 (12,9%), White females to 4 986 (12,5%) and White males to 13 594 (10,1%). (Table 30)

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(1) D. Hobart Houghton: "The South African Economy" p.116

## TABLE 29[1]

Numbers and percentages of workers employed in eight industrial categories in the western Cape and the location quotients for each category

1934

| | III Woodworking | V Preparation of foodstuffs and beverages | VI Clothing and textiles | VII Paper and printing | IX Ship & boat building & repairing | X Furniture & cabinet making | XI Chemicals | XV Leather & leatherwear |
|---|---|---|---|---|---|---|---|---|
| Numbers employed | 921 | 7 728 | 7 985 | 4 912 | 108 | 1 689 | 1 946 | 2 074 |
| Workers, % total employed in manufacturing | 15,4 | 20,9 | 33,1 | 34,7 | 61 | 33 | 22,9 | 19,6 |
| Location Quotient | 0,8 | 1,1 | 1,7 | 1,9 | 3,0 | 1,7 | 1,2 | 1,0 |

## TABLE 30[2]

Number of White and non-White males and females employed in the western Cape

1933-34

| | 1932-33 | 1933-34 | % Change |
|---|---|---|---|
| White males | 12 341 | 13 594 | 10,1 |
| White females | 4 242 | 4 986 | 12,5 |
| non-White males | 12 979 | 15 411 | 15,8 |
| non-White females | 5 184 | 6 071 | 12,9 |

(1) Statistics of Production (18th industrial census)

(2) Ibid (16th and 17th industrial censuses)

## TABLE 31(1)

Number of establishments, workers employed, nett value of manufactures and total HP used in the western Cape

1932-34

| | 1932-33 | 1933-34 | % Change |
|---|---|---|---|
| Establishments | 1 220 | 1 338 | 9,3 |
| Workers: All races | 34 846 | 40 062 | 12,9 |
| Whites | 16 583 | 18 580 | 12 |
| non-Whites | 18 163 | 21 482 | 18,2 |
| Value added to materials (R 000) | 19 754 | 21 877 | 10,7 |
| Total HP used | 112 236 | 139 052 | 23,1 |

## TABLE 32(2)

Nett value of industrial output in the western Cape

1939-45

| Year | Nett value of Output in R 000 | Increase | Increase % | Index |
|---|---|---|---|---|
| 1939 | 36 452 | | | 100,0 |
| 1940 | 41 098 | 4 646 | 12,7 | 112,7 |
| 1941 | 47 886 | 6 788 | 16,4 | 129,1 |
| 1942 | 51 148 | 3 262 | 6,3 | 135,4 |
| 1943 | 53 774 | 2 626 | 6,9 | 142,3 |
| 1944 | 61 300 | 7 526 | 14,0 | 156,3 |
| 1945 | 68 018 | 6 718 | 9,9 | 266,2 |

(1) Statistics of Production

(2) Ibid (22nd, 23rd, 24th, 25th, 26th, 27th & 28th industrial censuses)

By the outbreak of the Second World War there had been a steady growth in all branches of industry, but particularly in the engineering and sheet metal industry, where numbers employed rose from 2 648 in 1930 to 7 246 in 1937.

In the years of recovery after the depression, from 1934 to the outbreak of war in 1939, the growth pattern remained unchanged; the nett output of the western Cape declining to 18,07% of the Union total in 1939, while that of the southern Transvaal rose to 44,57%. During the first two years of war a slight increase in nett output occured in the western Cape, but dropped again to 17,4% of the Union total.

1939-1945

Industry throughout the Union developed rapidly between 1939-45. The "Second World War found South African industry much better equipped to meet the challenge of temporary isolation than it was in 1914 and rapid expansion to meet wartime demand was proof that it was more broadly based and more mature."(1)

By the end of the first year of the war production in the western Cape had increased by R2 142 000 from R4 646 000 to R6 788 000. In 1942 and 1943 the increase in nett value of output declined to R3 262 000 and R2 626 000 respectively as a result of German U-boat action, which effectively curtailed supplies of materials and equipment from Britain and the U.S.A. When that difficulty was overcome another upsurge in productivity occured but this was followed by a decline towards the end of the war. (Table 32)

Shortages of parts and equipment also forced industrialists to improvise in the years 1942-43. An example of this was the creation of a small highly specialised glass grinding and lense making industry at the Trigonometrical Survey Office in Mowbray, which provided spare parts

(1) D. Hobart Houghton: The South African Economy p.119

## TABLE 33[1]

Number of establishments, workers employed, nett value of manufacture and total HP used in the western Cape

1933-40

| | 1933-34 | 1939-40 | % Change |
|---|---|---|---|
| Establishments | 1 338 | 1 580 | 15,3 |
| Workers: All races | 40 062 | 60 819 | 29,3 |
| Whites | 18 580 | 25 390 | 27,9 |
| non-Whites | 21 482 | 35 429 | 39,4 |
| Value added to materials (R 000) | 21 877 | 38 037 | 42,5 |
| Total HP used | 139 052 | 296 019 | 53 |

## TABLE 34[2]

Number of establishments, workers employed, nett value of manufacture and total HP used in the western Cape

1939-45

| | 1939-40 | 1944-45 | % Change |
|---|---|---|---|
| Establishments | 1 580 | 1 446 | - 8,5 |
| Workers: All races | 60 819 | 69 509 | 14,8 |
| Whites | 25 390 | 19 923 | - 12,5 |
| non-Whites | 35 429 | 49 586 | 29,2 |
| Value added to materials (R 000) | 38 037 | 55 761 | 31,8 |
| Total HP used | 296 019 | 135 257 | |

(1) Statistics of Production (17th and 23rd industrial censuses)

(2) Ibid (23rd and 28th industrial censuses)

for delicate survey instruments and also optical replacements for ships of the Royal Navy.

At the end of the war, when raw materials, machinery and other factory equipment became more easily available and production was switched from mainly military requirements to consumer goods, the economy began to boom. Between 1945 and 1950 increases occured in all spheres of industrial activity. The number of Whites employed rose by 31% and that of non-Whites by 29%, the value added to materials and the nett output increased by nearley 50%, and improved standards of efficiency made possible these advances with only a minor increase (0,6%) in the power consumed.

As a result of demobilisation the greatest individual race-sex increase in employment in industry occured among White males, the total number employed rising from 14 000 in 1945 to 20 000 in 1950, an increase of 31,8%. (Table 36)

Increases in the total number of workers employed in seven industries occured in all but the furniture industry where there was a decrease of 671 persons. There were slight declines in the location quotients of the woodworking, food processing, clothing and furniture industries, but these figures reflect only relative declines because to the development of these industries to a greater extent elsewhere, notably the southern Transvaal. (Tables 30 and 37) In fact the nett outputs of all these industries increased substantially. (Table 36)

1950-1960

This decade was marked by a slowing down of industrial growth and a decline in the location quotients of eight selected industries with the exception of those of the printing and the leather trades. The woodworking industry was declining as new materials, particularly steel, aluminium and fibre glass began to replace wood as the common raw material used in the furniture and allied industries. The decline in the location quotients

## TABLE 35[1]

Number of establishments, workers employed, nett value of output and total HP used in western Cape

1944-50

| | 1944-45 | 1950 | % Change |
|---|---|---|---|
| Establishments | 1 446 | 1 928 | 25 |
| Workers: All races | 69 509 | 96 921 | 27,8 |
| Whites | 19 923 | 27 196 | 30,6 |
| non-Whites | 49 586 | 69 735 | 28,5 |
| Value added to materials (R 000) | 27 880 | 51 366 | 45 |
| Total HP used | 135 257 | 136 178 | 0,6 |
| Nett output (R 000) | 27 107 | 49 989 | 46 |

## TABLE 36[2]

Number of White and non-White males and females employed in the western Cape

1945-50

| | 1945 | 1950 | % Change |
|---|---|---|---|
| White males | 13 677 | 20 041 | 31,8 |
| White females | 6 246 | 7 145 | 9,9 |
| non-White males | 36 487 | 50 453 | 27,7 |
| non-White females | 13 099 | 19 244 | 32,4 |

(1) Statistics of Production (29th and 33rd industrial censuses)

(2) Ibid (28th and 33rd industrial censuses)

TABLE 37[1]

Numbers and percentage of workers employed in seven industrial categories in the western Cape and the location quotients for each category

1945

| | III | V | VI | VII | X | XI | XV |
|---|---|---|---|---|---|---|---|
| | Woodworking | Preparation of foodstuffs & beverages | Clothing | Paper & Printing | Furniture & Cabinetmaking | Chemicals | Leather & Leatherware |
| Number employed | 3 832 | 16 103 | 13 919 | 5 167 | 2 801 | 4 029 | 3 888 |
| Workers, % total employed manufacturing | 16,2 | 22,9 | 27,9 | 29,6 | 21,2 | 17,4 | 16,9 |
| Location quotient | 1,0 | 1,4 | 1,8 | 1,9 | 1,7 | 1,2 | 1,1 |

TABLE 38[2]

Numbers and percentages of workers employed in eight industrial categories in the western Cape and the location quotients for these categories

1955

| | III | V | VI | VII | X | XI | XV |
|---|---|---|---|---|---|---|---|
| | Woodworking | Preparation of foodstuffs & beverages | Clothing | Paper & Printing | Furniture & Cabinetmaking | Chemicals | Leather & Leatherware |
| Number employed | 2 232 | 19 551 | 22 380 | 8 987 | 4 258 | 2 547 | 6 382 |
| Workers, % of total employed manufacturing | 6,5 | 16,6 | 23,9 | 24,1 | 27,0 | 6,3 | 26,1 |
| Location quotient | 0,4 | 1,1 | 1,6 | 1,6 | 1,8 | 0,4 | 1,8 |

(1) Statistics of Production (28th Industrial Census)

(2) Ibid (38th Industrial Census)

of five of the other industries is expressive of relative rather than real decline, as the numbers of workers employed in each increased. (Table 38)

The greatest changes in the racial composition of the employed occured between 1950 and 1955. In this period the White male labour force decreased by 12,9% and White females employed by 6,9%, while non-White male and female labour forces showed increases of 10,1% and 22,4% respectively. (Table 40) These changes are indicative of the fact that in the ten-year period following the end of the Second World War capital equipment had been replaced and modernized making possible changes from manual to automatic and semi-automatic processes operated by semi-skilled labour. It was no longer economic to employ highly paid artisans when their places could be taken by semi-skilled non-White machine minders. Bantu labour had begun to move into the cities in great numbers at this time, swelling the non-White labour force.

Hobart Houghton has stated that, "Although protective tariffs have played some part in stimulating development, the main cause has undoubtedly been the expansion of the South African market. Based initially upon the gold mines and the urban population which grew up around them, the manufacturing developments have had a cumulative effect in expanding the market, because each successive phase of industrial expansion generates more income and increases the urban population, and this in turn stimulates further expansion."(1) The rapidly increasing Coloured population of the western Cape in particular, is providing a growing market for local industry, particularly that concerned with the manufacture of clothing. A growing overseas market has also stimulated this growth and local manufacturers have the further advantage of the location of Cape Town as a seaport to serve these export markets.



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(1) D. Hobart Houghton: The South African Economy p.121

TABLE 39[1]

Number of establishments, number of workers employed nett value of output and total H.P. used in western Cape 1950-55

| | 1950 | 1955 | Change % |
|---|---|---|---|
| Establishments | 1 928 | 1 292 | -6,4 |
| Workers: | | | |
| All races | 96 883 | 103 186 | 6,4 |
| Whites | 27 186 | 23 581 | -16,6 |
| Non-Whites | 69 697 | 79 605 | 12,3 |
| Value added to materials (R000) | 51 366 | | |
| Total H.P. used | 115 974 | | |
| Nett output (R000) | 49 989 | 72 496 | 47,0 |

TABLE 40[2]

Number of White and non-White males and females employed in the western Cape 1950-55

| | 1950 | 1955 | Change % |
|---|---|---|---|
| White males | 20 041 | 17 351 | -12,9 |
| White females | 7 145 | 6 642 | - 6,9 |
| Non-White males | 50 453 | 56 137 | 10,1 |
| Non-White females | 19 244 | 23 571 | 22,4 |

(1) Statistics of Production (34th and 38th Industrial Census)
(2) Ibid

Between 1950 and 1955 the number of industrial establishments decreased from 1 928 in 1950 to 1 292 in 1955 (6,4%), because a number of small concerns, which had mushroomed in the post 1945 boom, disappeared. These had in many cases been undercapitalised and therefore were unable to compete with bigger concerns which, in the post war period, had undergone various degrees of automation and became more efficient. These decreases, as well as decreases in the number of Whites employed (Table 40) were not indicative of a trade recession, for on the contrary expansion had occured in the clothing, furniture and leather industries, consequently the enhanced consumer demand arising from improvement in the standard of living. (Table 41)

In the same period commerce had expanded and was offering better opportunities for skilled White workers, who preferred the better pay and shorter hours offered by white collar work. These shifts account for the changes in the racial structure of industrial employment reflected in Table 40. The total number of workers increased by only 7 303 (6,4%) compared to an increase of 27 374 (39,2%) between 1945 and 1950 . (Tables 35 and 39) The number of Whites employed fell by 3605 (16,6%) but the number of non-Whites rose by 9 908 (12,3%).

In the second half of the decade a second boom was experienced, the nett output of industry in the western Cape increasing from R72 496 000 to R170 288 000. The number of establishments increased from 1 292 to 1 886 and the total number of workers to 135 720. (Table 42)

It is impossible to compare statistics of annual production in the period 1960-1970 because, as a result of changes in the method of presentation in Industrial Censuses, figures are quoted for the country as a whole and not on a basis of magisterial districts. Industry has continued to expand, but, as a result of credit restrictions on a nationwide basis, at a somewhat slower rate than before. The disaster

## TABLE 41[1]

Numbers and percentage of workers employed in seven industrial categories in the western Cape and the location quotients for these categories

1950

| | III | V | VI | VII | X | XI | XV |
|---|---|---|---|---|---|---|---|
| | Woodworking | Preparation of foodstuffs & beverages | Clothing | Paper & Printing | Furniture | Chemicals | Leather & leatherware |
| Numbers employed | 3 855 | 18 072 | 20 944 | 7 769 | 3 358 | x | 4 364 |
| Percentage of workers in each industry to all workers | 14,1 | 20,9 | 27,8 | 31,5 | 23,6 | x | 19,6 |
| Location quotient | 0,9 | 1,3 | 1,7 | 2,0 | 1,5 | x | 1,3 |

## TABLE 42[2]

Number of establishments, number of workers (all races) employed and nett output of industry in the western Cape

1954-60

| | 1950 | 1954-55 | 1959-60 | Increase % 1954-60 |
|---|---|---|---|---|
| Establishments | 1 928 | 1 292 | 1 886 | 45,9 |
| Workers - all races | 96 921 | 103 186 | 135 720 | 31,5 |
| Nett output (R000) | 49 989 | 72 496 | 170 288 | 45,0 |

(1) Statistics of Production (34th Industrial Census)

(2) Ibid (34th, 38th and 43rd Industrial Censuses)

# CHAPTER IV

## THE EXPANSION OF THE CITY OF CAPE TOWN[1]

The railway era in South Africa commenced in 1858 and the coming of the steam engine marked the beginning of a period of rapid development in the city. The construction of a railway to Wellington and later a second one to Wynberg encouraged urban growth in an easterly as well as in a southerly direction. Industrial concerns were also enabled to develop beyond the city limits along the line of rail. In Cape Town the most convenient site for a railway station was one fronting on Adderley Street on open level land between the Grand Parade and the sea. The first single track, which led to Salt River where one line branched to Wellington in the east and another to Wynberg in the south, followed a route parallel to that of the main road between the Castle and the Imhoff Battery on the sea shore along the edge of firm ground, which bordered the Salt River estuary which entered the sea about 2 kilometers west of its present mouth. Soon "the cuckoo in the nest had expelled the road and demolished the Battery to multiply its tracks and had cut off half the town from direct access to the sea".[2]

Following the opening in 1870 of the Albert Dock at the far western corner of Table Bay, an extension of the railway became essential. A single track was laid across the foot of Adderley Street beside Dock Road along the curved shore line at Rogge Bay,

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(1) Plate II

(2) W.J. Talbot, "Kapstadt als Weldstadt" in Zum Problem der Weldstadt ed J.H. Schultze p. 61

with the result, as Talbot has shown, that the western half of the city was also cut off from free access to the sea.(1) The construction of the Sea Point Railway, opened in 1892, with its town terminus on the site of the present Paul Sauer Building(2) virtually completed the railway monopoly of the waterfront.

In 1905, when the Old Town House had become too small to accommodate the officials of the City Council, the Municipal offices were transferred to the City Hall, which had been erected on the southern edge of the Parade adjoining the Volunteer Drill Hall.

By 1920 the C.B.D. had expanded to occupy an area bounded approximately by St. George's Street in the west, Darling Street on the north side and Plein Street on the east side. The southern edge was bounded by a number of public buildings including St. George's Cathedral, the Houses of Parliament, the old Slave Lodge and the Groote Kerk. Further expansion to the east was blocked by the City Hall, Magistrates Courts and Police barracks and to the north by the Parade and railway station. An extension had been made along the southern end of St. George's Street between Wale and Waterkant Streets. The commercial activities in the C.B.D. fell into two categories, one including a variety of retail outlets, the other insurance and newspaper offices. The former occupied blocks in the area between Adderley and Plein Streets, while the latter were concentrated along the southern end of St. George's Street. (Plate III)

The introduction of electric street cars or trams in 1896



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(1) W.J. Talbot, op cit, p. 62

(2) M. Murray Under Lion's Head

and the electrification of the Cape Town-Simonstown railway in 1928 enabled the residential areas in the southern Peninsula to expand. As a result the C.B.D. began to shift gradually away from Plein Street, to extend along Adderley Street towards the station and along St. George's Street where the trams stopped to discharge passengers.

The 18th century Dutch town continued to develop as the commercial centre, with a tendency to expand vertically rather than horizontally. Little other expansion of the C.B.D. took place until the end of the Second World War for the docks railway prevented expansion to the north, while expansion to the east was prevented by the City Hall, government offices and the police barracks and to the west by a group of small engineering shops, which had invaded the original residential area of Loop Street and Buitengracht Street.

As business activity in the central city increased the nature of the uses of the buildings along the periphery of the original Dutch town houses along Buitenkant Street were altered to accommodate wholesale firms serving the retail outlets of the city. On the west side of the old town, wholesale concerns had begun to invade the original residential quarter bounded by Burg, Waterkant, Buitengracht and Wale Streets. Large warehouses had been erected north of the Sea Point Main Road and west of Buitengracht Street near to the Docks which handled most of the merchandise entering or leaving not only Cape Town itself but also a hinterland extending as far north as the Zambezi. When the Duncan Docks were completed at the end of the Second World War, the Foreshore, an area which had been reclaimed from the sea, became available for building construction. The

construction of the Culemborg goods yards between the existing railway and the Duncan Dock, extended the eastern barrier to C.B.D. expansion to the dock side, while the Table Bay Power Station, located on Dock Road, prevented expansion in a westerly direction, but the removal of the single track to the docks beside Dock Road in 1959 permitted expansion to the north. The expansion of the C.B.D. was rather slow to take place for not only was redevelopment taking place in existing C.B.D. where new tower blocks were being built, but the existing C.B.D. and the area allocated for its further development were separated by the railway station and the Paul Sauer building on the east side and the Heerengracht hotel on the west side, which tended to discourage shoppers from entering the new area. Further west in the last decade the warehouses and small workshops in the area bounded by Ebenezer Road in the west, Somerset Road in the south and Dock Road in the north, have been raized and a number of tower blocks constructed in the city blocks bounded by Bree Street, Waterkant Street, St. George's Street and Dock Road. When the Table Bay Power Station is eventually removed in about 1980, the way will be opened for further expansion of the C.B.D. and the Foreshore will be effectively linked to the original city core.

As the population of Cape Town grew the town began to expand towards the west, east and south and residential areas grew up on the periphery. Early in the 19th century the "Old" Somerset Hospital had been built on Somerset Road on the western edge of the town. Adjoining the hospital and extending eastwards along Somerset Road was a number of cemeteries, but by the turn of the century these had been closed and while some of

them remained undeveloped, others were converted to other uses such as storage yards. The construction of the docks railway and the line to Sea Point had the effect of converting this part of the town north of Somerset Road and Waterkant Street into an area of mixed uses, including dockland hotels, general dealers' shops and rows of terraced houses interspersed with a variety of small industrial establishments.

District Six, a 19th century addition to the city, was a high housing density residential quarter with few public amenities and was occupied by the poorer classes - mainly Coloured and a small number of Whites, mostly East European immigrants. The zone rapidly deteriorated into an overpopulated slum and an area of decay which was invaded by industrial concerns, as land values were low, properties were easily obtainable, and abundant unskilled labour was available on the spot.

The villages of Papendorp, Altona, Roodebloom and Salt River were, by the end of the 19th century, all linked to the town by a comparatively swift means of transport and each began to expand rapidly until a ribbon of residences and shops extended all the way along Sir Lowry Road and Albert and Victoria Roads from the town to Salt River. Residential expansion also took place up the lower slopes of Devils Peak as well as in a triangle formed where road and rail diverged at Salt River, where rows of small terraced houses were built. (Plate IV) In the post Boer War boom another, but better class, residential area had been established south of Observatory Station - between the Main Road and the Liesbeek river. This was named Observatory after the Royal Observatory, which was

situated on a slight rise on the east bank of the river. South of Observatory the small farms, which had been a feature of the Peninsula since Van Riebeeck's day, had been cut up into fairly large estates on which large houses had been built. At the same time the villages of Claremont and Wynberg had begun to develop. On the Cape Flats the large Coloured township of Athlone had developed, while in 1920 the first garden city in South Africa was laid out at Pinelands, south east of Maitland. The villages of Maitland, Parow, Eerste Rivier, Goodwood and Bellville remained small; as late as 1921 the four of them together had a total population of only 7 000 persons.(1)

In the fifty year period 1920 - 1970 Cape Town has continued to develop "upon a ground plan most of which had been outlined at least, if not completed, before the Act of Union and the first World War".(2) The villages of Rondebosch, Claremont, Wynberg and Plumstead grew steadily between the wars, while a new branch railway, built to link Maitland to Heathfield via Athlone and Lansdowne, encouraged the development of both Coloured and White residential areas on the Cape Flats. After the second World War extensive residential estates were developed south of Wynberg along the railway towards Bergvliet and Retreat. Growth in the northern suburbs remained sluggish and until the second half of the twentieth century each village, strung out like beads on a string along Voortrekker Road and the railway to the interior, remained separated by patches of open veld, but after the second World War, as a result of industrial



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(1) W.J. Talbot "Cape Town as a World City" Zum Problem der Weltstadt ed J.H. Schultz p. 63

(2) Ibid 64

expansion as well as the natural increase in population promoting a shift of population from the platteland to the city, new suburban residential areas were developed.

Between the two World Wars urban ribbon development took place in an easterly and in a southerly direction. The southern suburbs had grown out of an amalgamation of the villages south of Observatory to Fish Hoek along the suburban railway and Main Road, the northern suburbs had grown much more slowly along the main line to the north and Voortrekker Road, and, thirdly, another series of separated suburbs, including Pinelands, Athlone, Crawford and Lansdowne, had developed along the route of the Cape Flats line.

In the second half of the twentieth century the Cape Town City Council, the National Roads Board, the Provincial Administration and the various local Divisional Councils had commenced a programme of roadworks based on the American and European concept of freeways. A new national road to Paarl was built across the lower southern slopes of Tygerberg, and a new road, Viking Way, was constructed from Pinelands to Bellville parallel to Voortrekker Road but on the southern side of the main railway to the north. A third route, Settlers Way, linked the City via Observatory with the coastal route to Durban, and this was connected to a fourth route to the southern suburbs which had been built before the first World War. (Plate III)

In this era what had hitherto been the sandy wastes and peri-urban farms of the Cape Flats were opened up for residential and industrial development. In the northern suburbs a rapid expansion had commenced in the post-1945 era as increasing numbers of people left the platteland and trekked to the cities,

and, with the construction of the new National Road to Paarl, the suburbs of Goodwood, Parow and Bellville had developed new extensions up the lower slopes of the Tygerberg. The implementation of the Group Areas Act of 1956 forced local authorities to rehouse their Coloured communities in new housing estates, some of which were laid out on the Cape Flats between the extension of the Langa Railway to Nyanga and Turfhall Road, Lansdowne. (Plate III) A belt of industrial townships, which would act as an effective barrier between the White and non-White townships which were developing eastwards was planned between the Viking Way and Settlers Way.

# CHAPTER V

## THE GROWTH OF INDUSTRY IN CAPE TOWN

## 1652 - 1920

Within five years of the establishment of the Dutch settlement Wouter Mostert had initiated three industries at the Cape to serve the needs of the local community. A mill was built on the banks of the Vars Rivier about a kilometre south of the point at which it entered a swamp before draining into the sea, a brick kiln was established next to the gracht which ran down the main thoroughfare through the town and a brewery was built on the banks of the Liesbeek. During the next 150 years at least four other flour mills were established, one, a windmill, on the lower slopes of the Windberg, a second, a water driven mill on the Liesbeek near Koeringhof, a third immediately to the east of the ford at Westervoort and the fourth on the Liesbeek immediately to the east of the Company's orchard at Ronde doren bos. The latter is the oldest extant industrial establishment in Cape Town. The windmill, known as Mostert's Mill, on the farm Welgelegen, still stands on the slopes of Devils Peak and the water wheel and the buildings which housed the mill are still to be seen at Westerford Bridge.

Of the four mills, only one, SASKO[1] located between the Liesbeek river and the railway to the southern suburbs at Rondebosch, continues to perform the function for which it was originally built. The original mill was built in 1810 but was destroyed by fire in 1855. The mill was rebuilt on the same

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[1] Suid Afrikaanse Sentrale Kooperatiewe Graanmaatskappy Beperk

site and in the following years was expanded. The mill has remained in the heart of a residential suburb because it is situated close by the railway from which spurs to the mill could be easily provided. A small freight yard at Rondebosch station provides adequate siding space for grain trucks both before and after their contents have been discharged. A modern bakery, owned by SASKO, has been built beside the mill.(1) In the first half of the 19th century the first of a series of three breweries was established on the lower slopes of Table Mountain, where a constant supply of fresh spring water was available.

The small population and consequently small market did not encourage industrial development at the Cape in the 200 year period following the establishment of the settlement in 1652, and growth was slow. In 1840, when the first detailed census was taken, there was a total of 36 manufacturing establishments including 20 food processing plants, mainly flour mills and breweries, 10 brickfields, 5 soap and candle making works, 2 establishments making hats of poor quality and one iron foundry. The upper classes relied upon Coloured seamstresses and Malay tailors for their clothing. Furniture, books, leather goods and carriages were imported.(2) (Table 42) In 1846 the Liesbeek tannery was established by Mossop and Son on the east bank of the Liesbeek opposite the mill owned by SASKO.(3)

In 1854 a brewery was established, by Mr. Letterstedt, in

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(1) See Appendix A for the history of the mill.

(2) No mention is made of the manufacture of vehicles in the Blue Books of the Cape Colony, 1840.

(3) See Appendix A for details of tannery.

TABLE 42

Numbers and types of industrial establishments in Cape Town

1840, 1860, 1885

| | Class of Industry | Establishments | | |
|---|---|---|---|---|
| | | 1840 | 1860 | 1885 |
| I | Treatment of agricultural raw materials | - | - | 1 |
| II | Processing of stone, clay, etc. | 10 | 17 | 8 |
| III | Working in wood | - | - | 16 |
| IV | Metals and engineering | 1 | 5 | 20 |
| V | Processing of food, beverages and tobacco | 20 | 34 | 100 |
| VI | Clothing and textiles | 2 | 3 | 4 |
| VII | Books, printing and paper | - | 2 | 11 |
| VIII | Vehicles | - | - | 18 |
| IX | Boat building | - | - | 3 |
| X | Furniture, bedding and upholstery | - | - | 3 |
| XI | Drugs, chemicals and paint | 5 | 5 | 3 |
| XIII | Plated ware | - | - | - |
| XIV | Heat, light and power | - | 1 | 1 |
| XV | Leather and leatherware | - | - | 39 |

open countryside between the Main Road and the suburban railway to the west of Newlands station. A few years later a Norwegian, Captain Ohlssen, founded a second brewery on the lower slopes of Table Mountain on Newlands Avenue, where he could obtain pure water from two streams, Kommetjie and Lekkerwater. Later he built a second brewery, nearer the Main Road, on a property named Annadale[1]. In 1901 Ohlssen bought Letterstedt's brewery and founded Ohlssen's Cape Breweries at Newlands. Two mineral water works were established by Pillans and Pegrams.

By 1900 the woolpressers, fellmongerers and fish curers had been ousted from their sites along Dock Road by a number of taverns, hotels and private dwellings. Industrial growth continued at a slow rate, but many small milling and tanning concerns had disappeared and been replaced by fewer, but larger, ones. Most industrial establishments were located on the western and south-eastern sides at the C.B.D., notably along Buitengracht and Commercial Streets. Very few establishments were located beyond District Six. The most important industries in District Six were connected with the manufacture and maintenance of vehicles, there being 11 wagonworks, 3 smithys and 2 saddlers. In Woodstock there was a total of 9 concerns located on Sir Lowry Road. A further 24 concerns were distributed along the Main Road between Observatory and Muizenberg. (Table 43)

Two years after Union, when the population of Cape Town had

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(1) An ancient iron water tank, surrounded by baulks of heavy timber, which served as a water tank for the steam tractors which hauled barley from the railway yard, still stands opposite the brewery site in the grounds of S.A.C.S. Junior School.

## TABLE 43

Number and types of industrial establishments in Cape Town and suburbs

| | | Establishments | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1900 | | | | | | 1912 | | | | | | 1920 | | | | | |
| | Class of Industry | City | District Six | Woodstock | Salt River | Observatory | Other | City | District Six | Woodstock | Salt River | Observatory | Other | City | District Six | Woodstock | Salt River | Observatory | Other |
| I | Treatment of agricultural raw material | | | | | | 1 | | | | | | 1 | | | | | | |
| II | Processing of stone and clay | 2 | | | | 1 | 2 | | | | | 1 | | | | | | | |
| III | Working in wood | 3 | | 3 | | | 2 | 32 | 4 | 1 | 2 | | 4 | 37 | 7 | 4 | 2 | 2 | 4 |
| IV | Metals and engineering | 22[x3] | 3 | 4 | | | 8 | 17 | 3 | | | | | 18 | 2 | | | | |
| V | Processing of food, beverages and tobacco | 27 | 3 | 3 | 1 | 2 | 21 | 30 | 16 | 8 | 7 | 4 | 27 | 37 | 16 | 8 | 7 | 4 | 27 |
| VI | Clothing and textiles | 8[x1] | | | | | | 4 | 2 | | | | | 4 | 2 | | | | |
| VII | Books, printing and paper | 19 | 1 | | | | | 34 | 1 | 2 | | | 3 | 36 | 1 | 2 | | | 3 |
| VIII | Vehicles | 9 | 11 | | | 2 | | 5 | 4 | 3 | 2 | 1 | 11 | 5 | 4 | 3 | 2 | 1 | 11 |
| IX | Boat building | 3 | | | | | | | | | | | | | | | | | |
| X | Furniture, bedding and upholstery | 23[x2] | 1 | 1 | | | 2[x2] | 11 | 1 | 2 | 1 | 1 | 2 | 11 | 1 | 2 | 1 | | 2 |
| XI | Drugs, chemicals and paint | 4 | | | | | 1 | 5 | 2 | | | | 1 | 4 | 2 | | | | |
| XIV | Heat, light and power | 2 | | | | | | 3 | | | | | | 2 | | 1 | | | 2 |
| XV | Leather and leatherwear | 11 | 2 | 2 | | | 5 | 13 | 5 | 3 | 1 | | 11 | 7 | 5 | 5 | 1 | | 11 |

x1 3 sail makers, 1 rope maker, 1 shirt factory
x2 13 upholsterers
x3 15 blacksmiths

grown from 173 500 in 1904 to 188 781, the industrial establishments had increased to 229 which included 92 food processing plants (of which 62 were small bakeries), 40 printing works, 20 engineering works, mainly repair shops, 8 footwear factories, 4 sawmills, 3 furniture factories and a factory manufacturing cheap shirts. (Table 43)

More than half of these establishments were located in the city. Engineering had increased in importance and the number of printing establishments had nearly doubled. The number of concerns located in District Six had increased from 21 in 1900 to 38 in 1912, but the number of wagon makers in the suburbs had declined from 11 to 4.

As the population of Cape Town grew, the suburbs and villages by the railway between Cape Town and Simonstown also grew in size. Industrial concerns also became more widely distributed. In 1912 there were 19 in Woodstock, 13 in Salt River, 7 in Observatory and 59 in the villages between Observatory and Simonstown. Small bakeries were predominant and wagon building and harness making concerns were well represented. (Table 43)

Conditions brought about by the war of 1914-18 enabled these local industries to develop as rapidly as those in the remainder of the country. The difficulties encountered by importers as a result of a lack of shipping created a form of protection for the local industrialists. By 1920 the number of clothing factories had increased by eight, the engineering works and foundries by six, and the number of furniture factories to fifteen. The number of bakeries had risen from thirty-one to sixty-one and the total number of factories processing food had

increased to ninety-nine. (Table 43)

Most of the industries using bulky raw materials in Cape Town in 1920 were concentrated in the rectangle formed by Somerset Road, Waterkant Street, Ebenezer Road, Long Street and Dock Road. There were nine general engineering and sheet metal works, two foundries and two plants manufacturing chemicals and paint. The flour mill on Mechau Street between Bree and Loop Streets, was conveniently located for receiving imported wheat, while the tannery, on Riebeeck Street between Long Street and Lower Burg Street, being regarded as noxious, was relegated to the water-front zone. The Cape and District Gas, Light and Coke Company occupied several blocks at the northern end of Long Street near Dock Road where it was easy to handle large quantities of imported Tyneside coal, which were stored in bunkers in Prestwich Street. A gasometer had been constructed on Long Street, between Prestwich and Riebeeck Streets. One of the only two lead works in South Africa was also situated near the docks to minimise delivery cost on material imported from overseas. (Plate IV) All these industries were to a large degree dependent upon imported raw materials and therefore tended to cluster near the docks, competing for such level sites as were available below the raised beach, the steep approaches to which impeded the movement of horse and mule drawn vehicles. Several of the engineering works had located in the area to service and repair ships' machinery.

A second industrial zone developed as industry expanded onto the raised beach and the lower eastern slopes of Signal Hill and invaded a once fashionable residential quarter. The latter had become a zone of deterioration following the

introduction of horse drawn buses, which had enabled the more affluent classes to move away to suburbs on the lower slopes of Table Mountain and westward to Three Anchor Bay and Sea Point, while large numbers of poorer classes moved in. The Malay Quarter, which lay immediately to the west of this industrial zone, then became increasingly the domain of the poorer labouring classes and the skilled Coloured labour employed in the vicinity. This zone had direct access to the docks via Loop, Buitengracht and Bree Streets, the latter two streets being wider than most thoroughfares in Cape Town, so providing easier access than elsewhere. Eight engineering and sheet metal works had been established by 1920, and two foundries had been located on Buitengracht Street and a third on Rose Street. Other industries included three footwear factories, two clothing factories, a candle works, three cardboard box factories and a paint factory. Twenty-seven of the city's forty-four printing works had been established in the area. Most of these industries, like those located in the dock area, were mutually complementary. In several cases a smithy, a foundry and a wagon building or sheet metal works were to be found grouped together in the same block, and, in some instances, under the management of the same firm. A third industrial zone may be discerned on the east side of the C.B.D. (Plate IV) Industry was less well developed here as this quarter of the city was cut off from easy access to the docks and supplies of raw materials were brought in via St. George's and Adderley Streets, and it was not desirable nor convenient for heavy wagons to pass through the heart of the C.B.D. Six of the eleven clothing factories then in existence in Cape Town were situated in this

area, clustered along Plein Street between Darling Street and Commercial Street. These comparatively small factories were located in the upper floors of retail concerns and had been attracted to the edge of the C.B.D. by the market which existed there. A pharmaceutical factory manufacturing cosmetics and patent medicines for a wholesale chemist was located on Barrack Street. Two mineral water factories, which had been established here since the middle of the 19th century, were located in a block between Harrington and Canterbury Streets. There were two flour mills located opposite the Castle on Darling Street, another main road into town.

The only industry to be found in the C.B.D. was newsprinting, represented by the Cape Times, the Cape Argus and Die Burger, the first two of which, seeking maximum centrality and proximity to Parliament, had located their offices and works on St. George's Street and the third on Keerom Street.

The industries located in the suburbs in 1920 could be divided into two groups, those which served the local community, the bakers, the harness makers and the blacksmiths, and those which served a wider market, the larger food processing plants, wagon building works and clothing factories. The concerns which served local consumers were often little more than cottage industries of which the small one man bakery is an example. The horse drawn baker's cart had a small range and bakeries were accordingly small and widely distributed. In 1920 there were 43 such bakeries or one to every 4 700 of the population. In District Six there were nine bakeries. Other industries which served the local population included nine blacksmiths and five harness makers scattered at random throughout the area. The

bakeries were located on Hanover, Caledon and Constitution Streets, the main thoroughfares leading to the city and along which the most important retail shops were located. In an era when the horse and cart formed the most important mode of transport, the blacksmith's shop was as common as the present-day service station. Six wagon construction and repair works were similarly distributed. There was little correlation between the location of the blacksmiths' shops and the wagon builders, only one pair occupying adjacent premises.

Most of the industrial concerns which served wider markets were located along the main road, Sir Lowry Road, on the northern edge of District Six. (Plate V) These included seven food-processing works, three clothing factories, three mineral-water works, three larger specialist bakeries, three furniture factories or cabinet works and a tannery. Ease of access to and from the docks and the interior seems to have been the most important factor in location but the large labour pool in District Six was also a contributory factor. The reason for the location of the clothing factories on Buitenkant, Longmarket and Aspeling Streets is less obvious. There was a clustering of tailors at the eastern ends of Caledon and Longmarket Streets where these entered District Six, where skilled Malay craftsmen, because they produced to individual order, worked close to their market which was mainly in the C.B.D. It is possible that the 19th century English system of sub-contracting or "sweating" in the clothing industry was practised and that in these factories the cloth was cut prior to being farmed out to the tailor who finished the work. Two brickfields were located on the eastern edge of District Six on the site at present occupied by

Trafalgar Park, between the edge of the 19th century built-up area and the residential area which was developed in the first decade of the 20th century in Woodstock. Clay derived from the underlying Malmesbury shale was readily available here.

In Woodstock and Salt River most industrial establishments were located along the railway and the old main roads, Albert and Victoria Roads, that ran parallel to it, both of which provided access to adequate transport facilities. North of the railway between Woodstock station and Salt River was an extensive area of very level beach deposits, a feature in part the result of geologically recent uplift and in part of marine deposition but which, because of its very level nature, the area was ill drained and swampy. It had been partially reclaimed and the Salt River Railway Workshops had been established in between Railway Street and Salt River Station on the north side of the railway. (Plate VI) West of Railway Street and north of Woodstock station a large group of noxious industries had been located. Here they were well out of the way of residential areas and were also served by a number of railway spurs. Among them there were five fish or lobster canning factories located on Porter Street and Beach Road, where there was easy access to both the docks and the beach for incoming raw materials. There was a tannery, an associated footwear factory and a leather works on Porter Street. A woollen mill and a fertiliser factory were located on Beach Road, and behind these, facing onto the railway, was the Castle Brewery. This latter establishment was served by a private railway spur to deliver its supplies of bulky raw materials. In 1888 the Cape Town and District Gas Light and Coke Company had established a gas works

north of the railway on Railway Street. Ease of access for bulky cargoes of imported English and Transvaal coal was assured by proximity to the railway line to the docks and the main line to the interior.

Fourteen industrial establishments, which had been located in a slum area formerly composed of small four-roomed cottages lacking the most elementary amenities, were located in an area bounded by the railway in the north and Albert Road in the south. (Plate VI) Thirteen of these had direct access to Albert Road and were dependent on road transport for obtaining raw materials and for delivering manufactured goods. Two of the fourteen establishments are classified in Juta's 1919 Street Directory as clothing factories, but it is doubtful if they were more than enlarged tailoring concerns which gave out piece work to local tailors to finish. Some of the remaining twelve establishments were classed as noxious. These included a tannery, a foundry and two large blacksmiths shops, to one of which a wagon building works was attached. There were four sheet metal shops, a flour mill, a large bakery, a bag and sack factory and a food-canning works.

A rectangular area formed by Victoria and Albert Roads and Gympie and Aberdeen Streets, an area of narrow streets and lanes and dilapidated terrace houses, had been invaded by sixteen other industrial establishments. There were four reputed garment factories, two woollen mills, a blacksmiths shop, a foundry, a sheet metal works, a leather works, a wagon building works, two joinery works and a small privately owned electric power station which provided power for the tramways. Of these only two faced Victoria Road, which was predominantly a shopping

thoroughfare bounded as it was on the west side by a recently developed housing estate.

Very few industrial establishments were located south of Victoria Road. There were only a joinery works, a sheet metal works and a bakery and a brickfield which had been established on the slopes of Devils Peak above the residential area. (Plate VI)

At the point where Salt River Road joins Victoria Road the name of the thoroughfare leading to the southern suburbs changed to Main Road. At this point, southwest of the Main Road, no residential development had taken place by 1920. In this open area between Hares Avenue and Pickwick Street there were a chemical works, a blacksmith's shop, two wagon building works and two brickfields. East of the Main Road, in the triangle formed by Salt River Road, Durham Avenue and the Main Road, there were no industrial concerns, the area being entirely residential. It was probably from here that the local industrial enterprises drew much of their unskilled Coloured labour. East of Durham Avenue a number of industrial establishments had begun to invade the lower class residential area on the south side of Albert Road. These included bakeries, a food canning works, three sheet metal works and two saddle and harness making works and next to the railway a foundry had been established. (Plate VI )

In 1912 a site in Observatory was chosen for the first large factory to be established in Cape Town, for prior to this date industrial concerns in the city and in the older suburbs, with the exception of the railway workshops, had been essentially small. Until then nearly all the soap consumed in

South Africa had been imported, but shortly after Union the first Lord Lever, a director of the soap manufacturing firm of Lever Brothers, realised that, as the consumption of soap was increasing in South Africa and as many essential raw materials were readily available in the country, it would be advantageous to manufacture the product locally. Accordingly a five-acre site, four kilometres from the city, was chosen at the eastern end of Salt River and at the northern end of Observatory, where Albert Road terminated on the edge of an area of marshy land by the railway. (Plate VII) The soap industry was considered noxious so that the people of the then high class suburb of Observatory protested violently at the establishment of this factory on the fringe of the residential area, but to no avail. The site had been chosen because the land was cheap, it was close to the small freight yard attached to Salt River Station and the requisite water and electric power were readily available.

In the interval which has elapsed since the establishment of the soap factory in Observatory, Lever Brothers has found it more economical to concentrate the manufacture of high quality toilet soap, which requires high grade raw materials including both animal and vegetable oils, in Durban. The hinterland of Durban, which includes Pietermaritzburg, about 60 kilometres away, and the whole of the Witwatersrand, some 640 kilometres away, is far more densely populated than that of Cape Town, and therefore provides a more extensive market. It was considered to be a better proposition to install a R50 000 soap drier with a capacity of 4 tons per hour in Durban than to install two R40 000 driers, one in each port, with capacities of 2 tons.

Furthermore it is cheaper to carry soap by sea from Durban to Cape Town than to rail soap from Cape Town to the Rand. Consequently the factory in Observatory now manufactures only Sunlight and blue soap and acts as a storage and distribution centre for the organisation's products in the western Cape.

At the conclusion of the first World War a partially disabled Australian ex-serviceman founded the "Brooks Lemos" factory to manufacture fruit juice nearby on site on the north side of Albert Road at its intersection with the Lower Main Road. (Plate VII) This site was also chosen because of the availability of a large area of cheap level land close by the railway.

In the decade following the end of the war, as the motor-car became more readily available and as public transport services improved, the better class residential areas tended to develop in a southerly direction along the railway and the Main Road. As the more well-to-do left Observatory for the less crowded suburbs in the southern Peninsula, so the White artesan class began to move in from Salt River and Woodstock. The Coloured working class later began to invade these suburbs. It was in part the result of these changes in the population structure of Observatory and Rosebank that the Lion Match Company moved its factory from a site on the Main Road Rosebank to one almost adjoining the Lever Brothers soap factory. For the first half of the present century the bulk of the labour force employed in the match industry was White female, and it was in Observatory that this class of labour was generally recruited. Proximity to the railway facilities at Observatory station was a further important factor in influencing the siting of the factory. (Plate VII )

The only other industrial concerns of any importance in Observatory were the Nectar Tea Company located opposite a large open space to the south of the soap factory, and two brick fields located on the eastern slopes of Devils Peak above the Main Road. (Plate VII) The sites for the brickfields had been selected because they were quite open and large quantities of clay, derived from weathered Malmesbury shale, were available. Other industrial concerns, which consisted of small joinery works, small sheet metal works, two monumental masons and a foundry, were of negligible importance.

By 1915 John Moirs, manufacturers of jelly powders, and Humphries sweet factory and the Lion Match factory had been established on the west side of the Main Road Rosebank, opposite the railway station.

# CHAPTER VI

## THE DEVELOPMENT OF INDUSTRY IN GREATER CAPE TOWN 1920 - 1972

The Municipal authorities had adopted a laissez faire attitude towards industrialists and little control was exerted over the siting of factories. As the population of Cape Town grew in size and residential suburbs expanded in a southerly direction so the factory belt expanded out of the city and along the road and rail routes which entered it from an easterly direction. In the second decade after the 1st World War a new development became apparent. Factories which had originally been established in the city began to move out. In the post great depression period (1932-33) many industrialists, responding to an expanding market, began to expand factories, instal more modern capital equipment and embark upon a programme of partial automation. In most cases these developments were rendered impossible by urban growth which had already occurred around these factories, so that new and more spacious sites had to be found. Furthermore rising city land values encouraged the resiting of factories in areas of decay on the periphery of the city and in the factory belt which had grown up in the Woodstock Salt River area.

In 1936 Price's Candle factory was moved from its original site on Hout Street between Loop Street and Bree Street to a new site adjoining the railway in Observatory south of Lever Brothers Soap factory and a small cigarette factory had been established opposite the candle factory on the east side of the railway. The South African Woollen Mills had erected mills next to the Harris Cotton Mills on Kotzee Street in Mowbray. John Moir relocated at 48 Hopkins Street in 1941 and Humphries moved to London Road, Salt River, in the same year. The moves of the latter two factories were

TABLE 44

Number of factories in selected industries in Greater Cape Town

1920 - 1970

| Class | Industry | 1920 | 1935 | 1940 | 1950 | 1960 | 1970 |
|---|---|---|---|---|---|---|---|
| III | Working in wood | 26 | 19 | 19 | 17 | 23 | x |
| IV | Sheetmetal and engineering | 20 | 37 | 65 | 87 | 181 | 247 |
| V | Preparation of foodstuffs and beverages | 99 | 96 | 80 | 55 | 85 | 142 |
| VI | Production of: | | | | | | |
| | (a) clothing | 6 | 45 | 55 | 109 | 210 | 269 |
| | (b) textiles | 0 | 0 | 6 | | 12 | 25 |
| VII | Printing and paper | 52 | 82 | 87 | 86 | 108 | 128 |
| X | Furniture, bedding and upholstry | 15 | 18 | 14 | 31 | x | 45 |
| XV | Footwear and leather goods | 10 | 11 | 18 | 13 | 21 | 23 |

x figures not available

not prompted by a lack of space into which to expand but rather by the availability of White female labour in Salt River and Observatory.

At about this time other industrial concerns were established along the railway to the interior. East of Maitland station, at a convenient break in bulk point for raw oats and barley from the interior, the Tiger Oats mill was constructed. The remainder of the Tiger Oats estate, which lay between Maitland station and the Cape Flats railway, was subdivided into industrial lots. Two of these lots were acquired by Maythams and the Metal Box Company of South Africa, both of which manufactured metal containers, and in 1939 a third lot was occupied by an extension of Herzberg-Mulne, manufacturers of cardboard containers. In Kensington, on the north side of Voortrekker Road opposite Woltemade cemetry, six factories had been built which included two textile mills and Irvine and Johnson's first fish processing plant. (Established 1902). Further east a plywood manufacturing plant was built in Parow in 1938, between the railway and Voortrekker Road, where cheap land was available and rail spurs could be constructed. At about the same time the Ruvee Furniture factory was established on the south side of the railway at Elsies River.



At the commencement of the second World War a number of the industrial establishments of Cape Town were still located on what had been the periphery of the old Dutch town. Heavy engineering works and saw mills remained in a block north of Waterkant Street in close proximity to the docks and smaller engineering shops were located on the west side of the old town along Rose, Buitengracht, Loop and Bree Streets. The clothing industry, then represented by 61 concerns of varying sizes, remained concentrated in the south-east corner of the city on Barrack, Commercial, Buitenkant and Roeland Streets. Other concerns, particularly those associated with leather and food and drink processing and clothing manufacture had extended in two nearly parallel lines occupying sites along Newmarket Street and Sir Lowry Road, Albert Road and

Victoria Road, Malta Road and the Main Road Observatory. The Liesbeeck tannery and John Forrests flour mill remained near Rondebosch Station, while farther south, Schweppes had expanded the bottling plant at Albion Spring and Ohlssons Brewery, established next to Newlands Station, had also expanded. Three saw mills were located at Wynberg, Plumstead and Retreat Station respectively.

Little further development was possible until the end of the second World War because of building restrictions and a lack of capital equipment but, in the immediate post-war years, a great deal of expansion in the whole economy took place. At that time there were only four areas with vacant industrial sites available beyond the city centre. These were the recently reclaimed Paarden Eiland swamps, Kensington, N'dabeni, and the brickfields nearing exhaustion in Salt River on the lower slopes of Devils Peak. Nearby the latter a slum area, which acted as a buffer between the commercial and industrial zone of Woodstock, Salt River and the residential area of Observatory, was ripe for redevelopment. It was in this area that a number of ready made clothing factories began to be established after 1945 (Plate VII).



As the two most important location factors for the clothing industry are proximity to a labour supply and proximity to the market, the former probably the more important, it is apparent that neither Paarden Eiland, nor N'dabeni, nor Kensington were suitable areas for the establishment of this industry. None had the centrality demanded by clothing industry and only the latter was located close to a source of labour, but the quality of the labour to be found in Kensington and adjacent Windemere was exceedingly poor. On the other hand the sites in Salt River had numerous advantages, the abandoned brickfields offered adequate, cheap, flat land and local markets in both the city and suburbs were easily reached by both road and rail and skilled White and Coloured labour was available in the surrounding suburbs.

TABLE 45

Number of industrial establishments in greater Cape Town

1950, 1960 and 1970

| Class | Industry | INNER ZONE (1) | | | | | | OUTER ZONE (1) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | City | | | Remainder | | | Northern Suburbs | | | Southern Suburbs | | | Total | | |
| | | '50 | '60 | '70 | '50 | '60 | '70 | '50 | '60 | '70 | '50 | '60 | '70 | '50 | '60 | '70 |
| III | Working in wood | 5 | 2 | 0 | 10 | 3 | 7 | 0 | 10 | 16 | 5 | 11 | 9 | 20 | 26 | 32 |
| IV | Sheet metal and engineering | 40 | 46 | 15 | 63 | 110 | 126 | 1 | 22 | 71 | 25 | 20 | 26 | 129 | 198 | 238 |
| V | Preparation of foodstuffs & drink | 17 | 17 | 7 | 30 | 32 | 63 | 1 | 22 | 35 | 8 | 17 | 29 | 56 | 88 | 134 |
| VI | Production of clothing and textiles (a) clothing | 59 | 73 | 46 | 51 | 96 | 157 | 0 | 17 | 20 | 9 | 11 | 20 | 119 | 197 | 243 |
| | (b) textiles | | | | | | 12 | | | 10 | | | 3 | | | 25 |
| VII | Printing | 54 | 59 | 47 | 20 | 33 | 59 | 1 | 5 | 9 | 10 | 8 | 13 | 85 | 105 | 128 |
| IX | Boat building | 4 | 3 | 4 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 |
| X | Furniture, bedding and upholstry | 7 | 7 | 12 | 11 | 10 | 15 | 0 | 3 | 9 | 7 | 3 | 8 | 25 | 23 | 44 |
| XI | Drugs, chemicals and paint | 9 | 15 | 8 | 7 | 13 | 31 | 0 | 2 | 8 | 1 | 4 | 6 | 17 | 34 | 53 |
| XV | Footwear and leather goods | 5 | 13 | 12 | 7 | 9 | 6 | 0 | 3 | 2 | 7 | 1 | 3 | 19 | 26 | 23 |

(1) The industrial areas of Cape Town fall into two groups: (i) the Inner Industrial Zone, including those areas established before the outbreak of the Second World War; the Central City, District Six, Woodstock, Salt River and Observatory and Maitland, Kensington, Ndabeni and Paarden Eiland. The latter two, although developed after the war, are included in this zone because of their proximity to it. (ii) the Outer Industrial Zone, including those areas established after the end of the Second World War; Epping 1 and 2, Elsies River, Parow East, Beaconvale, Sacks Circle, Triangle Farm Estate, Lansdowne, Lansdowne - Flamingo Crescent, Wetton, Diep River, Retreat, Athlone, Newlands and Rondebosch. The latter two, although established before the First World War are included because of their remoteness from the remainder of the Inner Zone areas.

It was only after the end of the war that the ready made clothing industry began to develop to any extent in South Africa. Up to 1939 articles of clothing including shirts, pyjamas, trousers and overalls had been manufactured on quite a large scale, but the better class Whites remained dependent upon imported womens' apparel, or tailor made womens' and men's clothing. In 1946 Rex Trueform, one of the largest ready-made clothing concerns in the country, was established on the Main Road Salt River on a site previously occupied by a number of slum dwellings which had had to be razed before the factory could be built. In 1947 a large shirt factory was established on Trill Road Observatory on the west side of the railway. This was followed by eight more clothing factories producing shirts, pyjamas, work clothing and water proof clothing and by 1970 all the available sites in an area bounded by Salt River Road, Durham Avenue, Swift Street, Shelley Road, and the lower slopes of Devils Peak had been occupied. Of the twenty sites on the abandoned brick-fields, ten were occupied by clothing factories and one by a yarn spinning mill and on the east side of Victoria Road eighteen factories had been built, half of which were large scale clothing works. (Plate IX).

The area at the southern end of Salt River has therefore a marked concentration of large scale clothing factories which are concerned with the production of ready-made men's and women's outer clothing, shirts, pyjamas, waterproof clothing and the spinning of yarns and the manufacture of accessories associated with the clothing trade, including zip fasteners and buttons. This concentration occurred after the second World War because it was only at that stage in the development of the clothing industry in South Africa a start was made with the manufacture of this type of article on a large scale in this country and this was then the most suitable vacant industrial land in the Cape Town area for the establishment of large clothing factories. Although this branch of the clothing industry demands a degree

of centrality, this factor in location is not vital as in the case of the smaller factories which produce small runs of high quality fashion goods mainly for retail outlets for in the C.B.D. These latter are generally located on the periphery of the city on the upper floors of buildings the lower floors of which are put to other uses. Factories producing men's clothing of various sorts require large buildings which cannot be economically established when land values are high, as near the central city. Furthermore as each of these concerns employs several hundred workers it is rational that they should be sited as close as possible to the areas of residence of their sources of labour in the suburbs.

A distinct clothing belt may now be discerned extending from Barrack Street on the western edge of District-Six along New Market Street and Sir Lowry Road in Woodstock, Albert and Victoria Roads in Salt River, to the northern edge of Observatory. This area contains approximately 41% of all the clothing factories in Greater Cape Town. (Plates IX, X, XI).

Other developments took place in the same area after the ending of the war. In 1949 the United Tobacco Company moved from its factory in Kloof Street to new premises on Lower Collingwood Road Observatory on the east side of the railway. Other concerns in the Observatory area then included a large footwear factory, a vinegar works, a soft drink factory, a sweet factory, a foundry, plastic works and several joinery works and printing presses. (Plate XII).

In 1955 Irvin and Johnson opened up a second fish processing plant on Beach Road Woodstock, close to an adequate labour supply and to the docks and Culemborg railway marshalling yards. Two major engineering works, Globe Engineering and Dorman Long, were also located on flat land north of the gas works, on sites that had been selected because railway spurs could be constructed easily and cheap labour was readily available in the neighbouring suburbs. As both of these firms were concerned to a large degree with the

manufacture of boilers and general ship repair work proximity and easy access to docks and particularly the graving dock were essential. On completion of the Sturrock graving dock, Dorman Long and Swan Hunter amalgamated and relocated their works at the east end of the graving dock in order to be in the closest proximity to ships requiring repairs and overhauls to machinery.

In 1956 Stewart and Lloyds moved into the plant previously occupied by Dorman Long, where their copper tube finishing plant was erected(1). At the end of the second World War the manufacture of plastic pipes and fittings was commenced(2) but, when SASOL began the production of polythene granules and when the manufacture of copper hollows in the Transvaal was commenced shortly after the end of the war, the Cape Town plant was closed down and the premises housing the plant have been converted to a distribution depot. Other developments were occurring in the new Outer Industrial Zone. (Plate III). In 1947 the Port Elizabeth furniture manufacturing firm of Fry Bros.merged with G.H. Starke. The latter had been manufacturing furniture in Elsies River in a factory which had been established in 1939. The combined companies then amalgamated with the Invincible Furniture Manufacturing Company (owned by Jaggers) which had moved from Wesley Street to the newly developed municipal industrial area at Ndabeni north of Pinelands. Both hard and case goods i.e. wooden furniture and steel furniture are manufactured at the N'dabeni factory for the Afcol group.

In 1948 Humphries sweet factory, Reckitt and Coleman, which had been established in Glynn Street, Gardens, in 1926 to manufacture Nugget shoe

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(1)Since 1936 Stewart and Lloyds had imported copper hollows from Wendsbury Tube Company in the U.K. and found it economical to process these items at the point of entry into Cape Town.

(2)Polythene granules were imported from Japan.

polish, John Moirs, and E.S. and A. Robinson, originally established in Commercial Street in 1922, all moved to N'dabeni where by 1970 all available sites had been occupied. Other concerns located in N'dabeni include the South African Litho Company, Five Roses (tea and coffee packers) three engineering works, two clothing factories, a fibre glass factory and a joinery works. (Plate XIII).

In the last decade there has been a tendency for industries other than the clothing industries to move to sites farther from the city , while at the same time there has been an increase in the number and size of the clothing factories.

In 1935 the City Council approved plans for the development of Paarden Eiland[1], which lies 5 kilometres north east of the city, as an industrial area, but no development took place and the only occupant was the Farmers' Co-operative Union, which built a wool store there. In 1937 power, water, and gas mains, stormwater drainage and sewerage were laid on and by 1940 a bus service was provided. Initially industrial sites were sold for 30 cents a square metre, but by 1946 only 46 sites had been occupied.

By 1948 the swamps on the west side of the eiland had been reclaimed by dumping builders' rubble, an action that has been regretted ever since, because of difficulties experienced as a result of subsidences during building operations. The number of developed sites had increased to 60 in 1949 and by 1958 nearly all the sites in the area west of the Salt River

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[1] Before the "eiland", a swampy area of marine and aeolian sand and alluvium covered with coarse grass and bush, was reclaimed, it was divided from the mainland on the west side by the old mouth of the Salt River and on the east side by the Diep River. It was given the name Paarden Eiland in the 18th century because Arend van Kielligh, a carter, kept his horses there. Paarden Eiland was later used as a site for lime burning on account of the quantities of mussel shell deposits, which provided suitable raw material for the kilns. Later, until the end of the 18th century, it was used as a leper colony. In 1926 a crayfish canning company was established there.

canal had been occupied. The Council estimated that there were then 134 factories and warehouses in use[1]. Of these there were 33 engineering and sheet-metal concerns, 3 foundries, 6 clothing factories and 6 food processing factories. Ten years later these had increased to 44 engineering and sheet-metal, 5 foundries, 17 food processing plants, 5 wood working plants and 5 printing shops, but the number of clothing factories had decreased to 5.

Paarden Eiland has the advantage of being bounded on the north and south sides by dual carriage ways giving access to the city and the northern and the southern suburbs. The internal street layout, based on a grid system, is poor. Roads are narrow, factory building lines extend to the sidewalks and off street parking has not been provided, so that illegally parked vehicles inhibit the free flow of traffic while the lack of loading bays makes the transfer of bulky goods to and from trucks difficult. In contrast to the newer industrial areas, Paarden Eiland is served by only a single railway track bisecting it in an east west direction and linking it to the Culemborg marshalling yards. Only those sites immediately adjoining the line have direct access to it.

The area is characterised by a considerable number of wholesale warehouses, warehouses owned by city retail stores, hide, skin, wool and liquor bulk stores. Ships chandlers also are most numerous on the Marine Drive, which forms the northern border of the area, and leads directly to the docks.

Various types of engineering shops, scattered through the area, (concrete, air conditioning and sheet metal predominate) form about 60% of the industrial units. The chemical industry accounts for about 12% of the concerns and plastics for a further 10%. The remaining 18% is accounted for by printing and joinery works, food processing plants, including three ice cream factories . The latter are concentrated in the north east corner, the last to be

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[1]J. Earle, Paarden Eiland: unpublished 3rd year thesis, U.C.T.

built on, and which offered the few large sites available for space is essential for plants handling milk in bulk. Furthermore these sites have particularly good access to the north west from where the factories obtain the bulk of their fluid milk.

The printing industry is not strongly represented because printers specialising in the production of newspapers and periodicals tend to locate near the CBD, printers concerned with the packaging trade require large sites with easy access for bulky loads, and the small printer, who relies on small runs from a fairly localised clientele, tends to locate on the edges of the CBD or in the suburbs. (Plate XIV).

When most of the available sites had been taken up Paarden Eiland North, an extentions of the original area east of the Salt River canal, was developed (Plate XV). By 1958 the railway had been extended beyond the canal, eight new sidings had been constructed and, by 1970, all but four sites had been developed. Only 34% of these developed sites have been devoted to industry, the remainder being occupied by ships' chandlers, industrial wholesalers, warehouses and storage sites for two oil companies. Small engineering shops predominate, making up 50% of the industrial concerns.

As a result of wartime conditions between 1939 and 1945 industry expanded, and at the end of the war manufacturers began to invest in new capital equipment. Many of the old factories established in the Inner Industrial Zone were obsolete and too small to accommodate this new equipment, also few large industrial sites remained in the area and at the same time a number of new industries, not previously known in South Africa, were being established in Greater Cape Town[1].

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[1] Between 1945 and 1950 the number of industrial establishments in the western Cape increased from 1446 to 1928 (33,3%) and the labour force had increased by 28%.

In order to accommodate these modern factories new industrial areas would have to be developed. The first and largest of these was Epping Industria (342 hectare) which has been developed in a space bordered on the north by Viking Way, in the south by the Langa-Nyanga railway, and in the west by Pinelands. Land to the east has been reserved for further industrial and residential development. The first of four divisions of Epping was planned and laid out in 1947 but little development actually occurred until the mid-fifties, and the outer ring road, known as Gunners Circle, was used for some years as a motor car race track.

Easy access to the city is provided by two major roads while three routes lead out to the east, connecting Epping with the industrial areas of the Northern suburbs as well as the interior. A sixth road links Epping to other industrial areas in the southern suburbs. (Plate III) A railway, which bisects both sections of Epping in an east west direction, has been constructed from the Culemborg marshalling yards near the Duncan Docks. Branches have been constructed at regular intervals from this line so that each industrial site has access to one or more spurs.

Epping Industria is bisected from north to south by Vanguard Drive, the smaller western section has an area of 84 hectare and the larger eastern section an area of 253 hectare. The western section known as Epping No. 1 is encircled by a ring road, Gunners Circle from which a number of dead-end avenues have been built into the oval. The planners took cognisance of the problems inherent in the street plan of Paarden Eiland and as a result the access avenues to the factory sites are wide and each is equipped with a large radius turning circle at its end. Each avenue is bordered by wide, tree lined grass covered, verges. Individual factory sites are large so that there is adquate space for horizontal development, storage, vehicle and parking space. A conscious attempt has been made to create a pleasant

atmosphere and in this respect industrialists have been encouraged (with favourable responses), to erect factory buildings which are aesthetically pleasing as well as functional. Railway spurs have been arranged in such a way that they actually can, if required, by included in the factory building so facilitating rapid loading and unloading of vehicles and railway wagons in all weather conditions.

Industrial development in Epping Industria began in 1954, when 10 concerns, including African Oxygen, Leyland and Arderne Scott Timbers, built factories. By 1960 the number of factories had increased to 34 and this figure had reached 136 in 1970. Of a total area of 341,6 hectare which was available for industrial and commercial purposes, 180,2 hectare had been developed.

The industrial structure of Epping has been influenced considerably by three facts; firstly the area was developed after the war when a number of new industries were being introduced into the country, secondly it is some distance from the city and therefore is not suited to industries which demand centrality, e.g. printing, and thirdly the industrial sites are large, which has encouraged the development of space seeking industries, e.g. flour mills, engineering and food-processing plants.

The engineering industry, representing nearly a third of all the industrial concerns in Epping No.1,dominates the industrial structure of the area. In contrast to the engineering establishments in the Inner Industrial Zone these are all large and include a heavy vehicle assembly plant (Leykor) and heavy structural steel plants. Both the truck assembly plant and the structural steel plants require much space for storage of bulky raw materials and ease of access for raw materials and the finished product. Epping No.1 has been designed to provide both facilities. A third important factor in location is the fact that Epping is linked by rail directly to the southern Transvaal, the main source of engineering steel.

TABLE 46[1]

The structure of Epping 1

| Class of Industry | * Percentage of total number of industrial establishments | Number of establishments |
|---|---|---|
| Engineering | 30 | 16 |
| Food processing | 21 | 10 |
| Chemicals | 13 | 6 |
| Joinery & sawmills | 8 | 5 |
| Cement products | 8 | 5 |
| Packaging | 8 | 5 |
| Milling | 2 | 1 |
| Working in glass | 2 | 1 |
| Plastics | 2 | 1 |
| Furniture | 2 | 1 |
| Clothing | 2 | 1 |
| Spinning/weaving | 2 | 1 |
| Paper and paper products | 2 | 1 |
| Vehicles | 2 | 1 |

* Due to the rounding of figures the final total does not equal 100



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(1) The figures in Table 46 are a measure of the relative importance of different industries in one particular locality and have been calculated as follows:

$$\frac{\text{number of factories in a given industrial category in the industrial area}}{\text{the total number of factories in the industrial area}}$$

The food-processing industry is also important. It is represented by two types of concern, only one group requiring spacious premises. The larger establishments include a flour mill, which demands ease of access for bulky grain loads and considerable space for both mills and storage silos, a bakery which is attached to the mills and a large soft drink bottling plant. Soft drink production, like baking, has a high ranking correlation with population, i.e. the demand for soft drinks increases in proportion to the increase in the population. The rapid growth of the population of Greater Cape Town in the post 1945 period and the amalgamation of three soft drink bottling concerns resulted in the establishment of this plant in Epping No.1. The raw material requirements of such an industry are small, consisting essentially of small quantities of essence, sugar and water, but much space is needed for the storage of empty bottles and for delivery vehicles. The three butter factories in Epping also require adequate storage space for fluid milk as well as ease of access for the rapid movement in bulk of raw material which spoils easily.

The food processing factories which have been established in Epping No.1 are in most instances branches of established oversea firms, which established branches in South Africa immediately after the second World War. These industries which do not make great demands on space, and include those manufacturing foodstuffs, many of which, prior to 1939, were imported. These include the preparation of mayonnaise and other condiments, sauces, essences, fruit juices and sliced, cooked, potato chips.

Other industries located in Epping include those that manufacture chemicals, the largest representative being African Oxygen which was forced to move from pre-war premises in Salt River in order to expand. Two joinery works were also forced to move from the Inner Industrial Zone near the docks because of lack of space and because of pressure from the expanding tertiary industries, which required more office accommodation in the city,

which led to the expansion of the C.B.D. into an old industrial zone. Other concerns include a factory manufacturing plastic articles, a paper product factory and a cotton and artificial fibre spinning and weaving mill. These latter industries are all post-1945 developments, which seek specially designed, spacious factories. (Table 46)

The second phase of the development of Epping took place in 1957 when extensions No.2, 3 and 4 (250 hectare) were opened on the east side of Vanguard Drive. By 1970 180 hectare had been developed. Many of the factory buildings in the new extensions are prefabricated steel and concrete structures as this method of construction is more rapid and less costly than conventional ones. Despite the fact that these buildings are utilitarian they have been constructed to high architectural standards.

The industrial structure of Epping No.2 differs from that of Epping No.1 for, although engineering predominates, it represents a smaller percentage of the total number of concerns and three other industries, absent from Epping No.1, are represented: footwear, electrical appliances and rubber goods. The variety of industries represented is greater than in Epping No.1 although the engineering and sheet metal working and food processing remain the dominant industries. The former industry is represented by 14 concerns and 2 foundries. Of these, all except one, Metal Box of South Africa, which fabricates a variety of metal containers and bottle tops, are much smaller than those in Epping No.1. Metal Box owes its size to the fact that it provides all the hollows (i.e. metal containers) for the entire food, fruit and jam canning industry in the western Cape, as well as all the cans required by Ohlsson's Breweries, and two large soft drink firms as well as the bulk of the white tops (i.e. screw on vacuum lids) used in the Republic. The structure of the food-processing industry in Epping No.2 is also different from that of Epping No.1 for in the former area the firms are smaller and include old-established concerns, which, as a result of

expansion, have had to move from congested city sites and as most of this expansion began in the post-1950 era these factories could not move into Epping No.1 as all available sites had by then been occupied.

The milling and baking industry is conspicuous by its absence. There are three very large sawmills and four joinery works which account for 9% of the industrial concerns.

Four concerns manufacture textiles, canvas, yarn and fish nets respectively. The clothing industry is represented by a single knitwear factory, a branch of women's outerwear factory, the head office of which is located in Salt River, and an industrial clothing factory. As the markets of the latter two clothing concerns are Republic wide and as the main location factor is space there is no need to locate near the city centre. There are three footwear factories, one which manufactures shoes from the hides of wild animals, has expanded from a twelve-hand Woodstock-based establishment in 1966 to a factory in which 400 are now employed. This factory has established a European market and recently an order for 5 000 pairs of shoes was executed for a Paris fashion house.(1)

Most of the other industries include those manufacturing plastics, fibre glass, adjustable shelving, chemical products, plastic flooring, polish, crayons and toys, nearly all industries that were introduced into South Africa after 1945.

Epping Industria has become one of the important centres of industries handling bulky materials in Greater Cape Town having attracted heavy structural engineering firms, the African Gate and Fence Company, Metal Box of South Africa, four large sawmilling and joinery works, a flour mill, two foundries, a vehicle assembly plant and several chemical plants to the area because of the low rated (120 cents per hectare), spacious sites which

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(1) Cape Times - 28th August 1971

TABLE 47

The structure of Epping extensions No. 1, 2, 3 and 4

| Class of industry | Epping No. 1 | Epping Nos. 2, 3 and 4 | |
|---|---|---|---|
| | Number of establishments | % of all establishments | Number of establishments |
| Engineering and vehicles | 30 | 21 | 16 |
| Food processing | 21 | 11 | 8 |
| Chemicals | 13 | 8 | 7 |
| Joinery and sawmills | 8 | 8 | 7 |
| Cement products | 8 | 0 | 0 |
| Packaging | 8 | 4 | 4 |
| Milling | 2 | 0 | 0 |
| Working in glass | 2 | 3 | 3 |
| Plastics | 2 | 4 | 4 |
| Furniture | 2 | 3 | 3 |
| Clothing | 2 | 8 | 7 |
| Spinning and weaving | 2 | 4 | 4 |
| Paper and paper products | 2 | 3 | 3 |
| Printing | 0 | 3 | 3 |
| Leather | 0 | 2 | 2 |
| Footwear | 0 | 4 | 4 |
| Electrical equipment | 0 | 1 | 1 |
| Rubber goods | 0 | 1 | 1 |
| Toys | 0 | 1 | 1 |

are available and the excellent rail facilities that have been a major factor in the location of these industries, which draw the bulk of their raw materials, steel and raw chemicals, from the southern Transvaal. (Plate XIX) (Table 47)

Between the two World Wars sporadic industrial development had taken place along the main railway line to the north on the southern edges of the villages extending from Goodwood to Bellville that were later to become known as the Northern Suburbs. The most notable of the industrial plants established there in this period was a large plywood and veneer factory set up in 1938 beside the railway on the west side of Tiervlei station. Farther east a small industrial estate was developed on the south side of the railway close to Elsies River Station. After the Second World War several light industrial concerns including clothing, footwear, furniture, paint and light engineering began to invade a deteriorating residential area in the vicinity of the railway. When Consani Engineering moved from 73-75 Salt River Road in 1949 to an extensive site on Epping Avenue in Elsies River (Plate XX) a part of the original residential area was cleared and an industrial township was laid out. Here also sites are extensive and have attracted industries which require spacious locations; these include a soft drink plant, a women's apparel facotry, a textile mill and a carpet factory. In 1961 Chrysler located their plant on the east side of the Consani works but by 1970 the motor car assembly plant had been closed and moved to a site north of Pretoria. A year later the light truck division was also relocated at the new site near Pretoria.

Engineering is predominant among the industries in the Northern Suburbs but clothing and textiles are also important. Clothing factories appear to have been attracted by the availability of Coloured labour in the housing estates extending to the south of the main railway line. (Plate XX) (Table 48)

TABLE 48

The structure of Elsies River

| Class of industry | Percentage of total number of factories | Number of establishments |
|---|---|---|
| Engineering | 20 | 15 |
| Clothing and textiles | 17 | 14 |
| Furniture | 8 | 9 |
| Printing | 8 | 9 |
| Sawmills and joinery | 5 | 4 |
| Footwear | 5 | 4 |
| Food processing | 5 | 4 |
| Plastics | 5 | 4 |
| Paint | 4 | 3 |
| Toiletries | 1 | 1 |
| Vehicles | 1 | 1 |

In the decade following the Second World War more industries were attracted to the Parow-Tiervlei area. In 1949 the Cape and Transvaal Printers moved from their factory in the city to a spacious site between Voortrekker Road and the railway on the east side of Parow. A year later I.L. Back, a leading clothing manufacturing firm which had first been established as an underwear factory in Buitengracht Street in 1919 and which had moved to Commercial Street in 1936 transferred its plant to Voortrekker Road, north of Tiervlei Station. Thereafter industrial expansion continued rapidly, factories invading a residential area between the railway and Voortrekker Road east of Tiervlei Station although the disadvantages arising from the narrow nature of the roads are only partly compensated by proximity to the railway goods yard at Parow.

Small engineering shops are numerous (Table 48 and Plate XX) a normal feature of areas originally developed for residential purposes but which subsequently have been invaded by establishments requiring relatively little space. A number of joinery works has been established, attracted by the local supply of semi-processed raw material provided by the saw mill established in 1938.

As the rate of industrial development quickened in the fifties and sixties and as it became apparent that sites in the new industrial estates established south of Bellville at Kasselsvlei Road in 1954 and Sacks Circle in 1957 were in demand, the Municipality of Parow considered developing its own estates. Two were laid out in 1969 on the south side of the railway, Beaconvale on derelict farm land south of the railway and Parow Industria on the eastern side of a recently developed Coloured township and north of Modderdam Road. (Plate XXI) (Table 49). The latter has excellent access by road from both Epping in the west and the Bellville industrial areas in the east. (Plate XXII) (Table 49).

TABLE 49

The structure of Parow

| Parow East Class of Industry | X % | Number of Establishments | Beaconvale Class of Industry | X % | Number of Establishments | Parow Industria Class of Industry | X % | Number of Establishments |
|---|---|---|---|---|---|---|---|---|
| Engineering | 30 | 4 | Clothing | 30 | 5 | Engineering | 22 | 7 |
| Clothing | 21 | 3 | Engineering | 15 | 4 | Clothing | 18 | 6 |
| Joinery | 14 | 2 | Plastics | 7 | 1 | Joinery | 12 | 4 |
| Sawmills | 7 | 1 | Footwear | 7 | 1 | Plastics | 12 | 4 |
| Printing | 7 | 1 | Vehicles | 7 | 1 | Textiles | 9 | 3 |
| Packaging | 7 | 1 | Textiles | 7 | 1 | Processing of food | 9 | 3 |
| Chemicals | 7 | 1 | | | | Chemicals | 6 | 2 |
| | | | | | | Vehicles | 3 | 1 |
| | | | | | | Cement products | 3 | 1 |
| | | | | | | Paint | 3 | 1 |

X percentage of total number of establishments

Beaconvale is one of the most recently opened industrial estates in Greater Cape Town so that its industrial structure is markedly different from those of most of the other industrial estates in the Northern suburbs. Clothing and allied industries predominate 44% of the developed sites being occupied by these concerns, but engineering and vehicle construction are not well represented (22% the total number of establishments) (Table 49).

The industrial structure of Parow Industria is most diversified, 27% of the developed sites are occupied by the clothing and other industries. One of the largest clothing factories in the Republic, I.L. Back, has been built here to house all branches of the firm's factories, which were located in Parow East and Wynberg. A further 25% at the developed sites are occupied by sheet metal, engineering and vehicle construction concerns and a further 19% of the sites are occupied by building firms and wholesale merchants. Various food processing plants are fairly well represented.

In 1954 the Bellville Municipality, seeking new sources of revenue, laid out the first of four industrial estates, Kasselsvlei, between Jackson Street in the west, Kasselsvlei Road in the south and east and the railway from Cape Town to Strand in the north. When complete three of these areas, Kasselsvlei, Triangle Farm, and Sacks Circle, will form one unit. Each part of the unit has been provided with adequate road and/or rail links.

In 1954 five concerns were established in the Kasselsvlei area. These included Machawick Fencing, Duro Plastics, A Moore Engineering, Glucose-Starch, and Cape Paint and Varnish. Two years later Blanckenberg's Body Works, in order to expand to meet increasing demand for comercial vehicles, moved from Voortrekker Road to Kasselsvlei. In 1966 the Cape branch of a British food processing concern, Crosse and Blackwell, which had amalgamated with Nestle, moved into the area from a site in Roeland Street, to occupy the last available site in Kasselsvlei.

In 1957 the second of the four estates was laid out at Sacks Cirle. In design it is similar to Epping industria, consisting of a ring road from which access roads lead to the centre of the area. The suburban railway from Cape Town via Langa to Stickland (Plate XXIII) passes the southern and eastern edges of the area. Road access from Modderdam Road is poor and the feeder road is narrow passing along the southern edge of a Coloured township which is not protected by any safety fences. Nonetheless the industrial concerns located at Sacks Circle have the advantage of being able to draw on labour from the neighbouring Coloured township and of having a direct rail link with the Bellville marshalling yards, one of the largest in Greater Cape Town.

In 1957 three concerns, Dorman Long Swan Hunter (Engineers) John Thompson, the largest boiler makers in the Republic and Consolidated Glass set up plants in Sacks Circle. The latter two industries were classfied under the Offensive Trade Regulations for the City of Cape Town No. 402 of 28th February, 1930, as being noxious and accordingly were excluded from any industrial area within the Municipality of Cape Town. By 1965 the number of industrial establishments in Sacks Circle had increased to 9 and included a second engineering works (Consani-Nielson), a fish-processing plant, a board mill, a plastic floor factory, a paper products factory, the South African Nylon Spinners' Mill and two other artificial fibre processing plants.

Engineering and the manufacturing and processing of artificial fibres predominate, the former because they require considerable space for the storage of bulky raw materials, fuel and fabricated goods, and the latter because the artificial fibre industry made its appearance in the Republic only in 1954 when the few suitable sites for the location of such an industry were still available (Table 50).

By 1960 the number of engineering firms located in the Northern suburbs had increased to 29, including a second vehicle construction works (West's

TABLE 50

The structure of Sacks Circle

| Class of industry | Percentage of total number of factories | Number of establishments |
|---|---|---|
| Engineering | 19 | 3 |
| Artificial fibres | 19 | 3 |
| Food processing | 12 | 2 |
| Glass and stone processing | 12 | 2 |
| Plastics | 12 | 2 |
| Rubber products | 6 | 1 |
| Paper products | 6 | 1 |
| Chemicals | 6 | 1 |
| Wood processing | 6 | 1 |



TABLE 51

The structure of Triangle Farm Estate

| Class of industry | Percentage of total number of factories | Number of establishments |
|---|---|---|
| Engineering | 37 | 9 |
| Furniture | 12 | 3 |
| Plastics | 12 | 3 |
| Vehicle construction | 8 | 2 |
| Cement products | 4 | 1 |
| Conveyor belts | 4 | 1 |
| Joinery | 4 | 1 |
| Rubber products | 4 | 1 |
| Spinning | 4 | 1 |
| Preparation of foodstuffs | 4 | 1 |
| Chemicals | 4 | 1 |

Body Building) situated on Voortrekker Road, Bellville. Other concerns included 20 food-processing plants, 13 clothing factories, 3 footwear factories and 3 foundries.

Triangle Farm industrial estate, located between the Strand Main Road, Kasselsvlei Road extension and the railway to the Strand, the third of the four planned estates in Bellville, was laid out in 1968, when most of the available sites at Sacks Circle had been occupied. Access is good, service roads within the estate are wider than normal, but industrial sites are small. Engineering is the predominant industry and consists largely of small shops. (Plate XXIV).

While industrial development was proceeding along the east-west axis formed by the railway to the interior, industrial growth was taking place also along the north-south Main Road suburban railway axis. In 1951 a carpet factory was established on reclaimed vlei land adjoining the Main Road at Retreat. In 1952 the Nerissa Industrial Township (35 hectare in extent) was laid out on abandoned market garden land south of Turfhall Road and east of the Cape Flats railway. (Plate XXV). In 1960 the number of establishments had increased to 13. By 1970 most of the available sites had been occupied.



The clothing and allied industries are most important (48% of all concerns). Two of the clothing factories have moved from the Inner Industrial Zone, where expansion was prejudiced by cramped conditions and obsolete buildings. One concern specialises in dyeing and finishing knitwear manufactured by small knitting mills which do not have the facilities to carry out these processes.

Clothing and textile concerns predominate and all of these are extensive. Engineering is important, but, with the exception of one large works, the shops are small. Four years after the establishment of the Nerissa Industrial Township a second privately developed estate, Glossderry Road Estate (10 hectare)

TABLE 52

Structure of Nerissa Industrial Township

| Class of industry | Percentage of establishments | Number of establishments |
|---|---|---|
| Clothing | 33 | 10 |
| Engineering | 20 | 6 |
| Textiles | 13 | 4 |
| Footwear | 6 | 2 |
| Cement products | 3 | 1 |
| Wooden doors | 3 | 1 |
| Plastics | 3 | 1 |
| Printing | 3 | 1 |
| Packaging | 3 | 1 |
| Furniture | 3 | 1 |
| Processing of food | 3 | 1 |

was established in Lansdowne on the south side of Lansdowne Road. By 1957 a knitting mill, a lacquer factory and a bakery had been established and by 1970 90% of the area had been occupied by industrial and wholesale concerns. (Table 53) (Plates XXVI and XXVII).

TABLE 53

The structure of Glossderry Road Industrial Estate

| Class of Industry | Percentage of Establishments | Number of Establishments |
|---|---|---|
| Engineering | 30 | 5 |
| Clothing and textiles | 23 | 4 |
| Furniture | 17 | 3 |
| Chemicals and paint | 17 | 3 |
| Printing | 6 | 1 |
| Baking | 6 | 1 |



TABLE 54

The structure of Retreat West

| Class of industry | Percentage of establishments | Number of establishments |
|---|---|---|
| Clothing and textiles | 33 | 3 |
| Engineering | 22 | 2 |
| Food processing | 11 | 1 |
| Toiletry | 11 | 1 |
| Packaging | 11 | 1 |
| Footwear | 11 | 1 |

In 1956 the Tej Knitting Mills were opened by the Main Road, Retreat, followed in the same year by the establishment of a packaging works and later on engineering works. In 1967 the Retreat West Industrial area was established between the Main Road and the suburban railway. (Plate XXVII) Access by road is satisfactory and it is situated in close proximity to two Coloured townships, which have been developed on the east side of the railway. Nevertheless by 1971 only 3 hectares of a total of 49 hectares had been occupied for the area is some 27 kilometres from the city. (Table 54).

The privately owned Diep River industrial estate (33,6 hectare), proposed in 1947 and zoned in 1961, is located between two White and two Coloured housing estates on the south side of the Cape Flats railway. The large industrial sites have been laid out in part on derelict farm land and in part on waste land. Until 1970, because of lack of local labour, only 13 hectares had been developed. But since 1970 two Coloured housing estates have been established, one on the eastern side and the other on the western side of the area, both of which provide adequate sources of both skilled and unskilled labour, and industrial development has progressed rapidly since that date (Table 55).



TABLE 55

Industrial structure of Diep River

| Class of Industry | Percentage of total number of factories | Number of establishments |
|---|---|---|
| Clothing | 43 | 3 |
| Engineering | 14 | 1 |
| Footwear | 14 | 1 |
| Working in cement | 14 | 1 |
| Other | 14 | 1 |

The clothing and allied industries are represented by three large concerns, a knitwear factory, a stocking factory and women's underwear factory, and a moderately large footwear factory. The remainder of the concerns are all small and have been established for some time.

The Wetton South Industrial Estate, located on the east side of Wetton Station, covers an area of 2 hectares of which 1,7 hectare had been developed by 1970. The estate has been established in an old residential area the nature of which has delayed its development (Plate XXIX).

TABLE 56

Industrial structure of Wetton North

| Class of Industry | Percentage of establishments | Number of establishments |
|---|---|---|
| Working in wood | 44 | 4 |
| Shop fitting | 11 | 1 |
| Clothing | 11 | 1 |
| Working in cement | 11 | 1 |
| Working in metal | 11 | 1 |
| Chemicals | 11 | 1 |



A further 36 hectares of waste land has been zoned for industrial uses, of which 8 hectares had been developed by 1970. In Athlone four separate estates with a total area of 77 hectares were zoned for industrial uses in 1964 but only 9 hectare had been developed by 1970.

The distribution pattern of industrial clusters in Greater Cape Town has been influenced mainly by two factors. Firstly the layout of the main railway routes to the north and to the southern suburbs and the main roads

which run parallel to them have attracted industrial suburbs, and secondly the location of the different population groups in the Peninsula has played an important role because so many industries in Cape Town are labour oriented. A chain of industrial suburbs has developed to the south of the main railway to the north and on the northern boundary of a number of Coloured housing estates, which have been laid out on the Cape Flats. Some of these industrial estates, particularly those in the vicinity of Parow and Bellville, are dominated by the engineering industry, which is largely railway oriented. A second, but more fragmented, chain of industrial estates has grown up in the vicinity at the two suburban railway lines to Simonstown and the main roads which run at right angles to these railways. In these estates the clothing and textile industry is usually dominant because this industry is largely labour oriented and large Coloured housing estates from which this labour supply may be drawn are being developed in the vicinity. (Plate III).

# CHAPTER VII

## THE DEVELOPMENT OF THE LEADING INDUSTRIES IN GREATER CAPE TOWN

The little industry which existed in Cape Town at the beginning of the 20th century showed a considerable degree of diversification. Of the sixteen industrial groups[1] recorded in the Industrial Censuses between 1925 and 1945 nine had location quotients of more than one. This number increased to ten in 1937 but had declined to six by 1950 and five by 1960. (Table 57 and Appendix B - Table 1)

The figures for 1960 indicate that the industrial structure of the western Cape is becoming less diversified as textiles and clothing, the preparation of foodstuffs and beverages, paper and printing and chemicals form the most important group of local industries. (Table 57)

Although the leather industry had a location quotient of 1,8 in 1960 its relative importance is not as great as the industries referred to above, for in that year only 1170 workers were employed in the industry.

The industrial structure of the western Cape is now dominated by three industries: clothing and textiles, the processing and preparation of foodstuffs and beverages and printing. Between 1920 and 1960 the labour forces in these industries have increased by 900%, 238% and 335% respectively. The clothing and textile industries employ 31 000 workers, a three fold increase in the twenty year period 1939-1969, the food and drink industry employs 26 000 and the paper and printing industry 10 000 workers. The numbers employed in the leather and leatherware industries have declined from 3 172 in 1939 to 1 170 in 1960.

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(1) Seventeen industrial groups are recorded in the Industrial Census, but as the seventeenth includes industries referred to as "other" it has been ignored

TABLE 57

Percentages of total labour force of RSA employed in each industrial category characteristic of the western Cape and relevant location quotients

1920-60

| | Workers | | Workers | | Workers | | Workers | | Workers | | Workers | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | L Q | % | L Q | % | L Q | % | L Q | % | L Q | % | L Q |
| | 1920 | | 1925 | | 1937 | | 1945 | | 1950 | | 1960 | |
| Ship and boatbuilding and repairing | 41,9 | 2,3 | 62,6 | 3,4 | 49,9 | 3,3 | x | x | x | x | x | x |
| Clothing & textiles | 37,4 | 2,1 | 31,2 | 1,7 | 30,1 | 2,0 | 27,9 | 1,8 | 27,8 | 1,7 | 27,9 | 2,0 |
| Furniture | 38,4 | 2,1 | 38,8 | 2,1 | 27,0 | 1,8 | 21,2 | 1,7 | 23,6 | 1,5 | 19,7 | 1,3 |
| Paper & printing | 32,4 | 1,8 | 35,7 | 1,9 | 32,3 | 2,1 | 29,6 | 1,9 | 31,5 | 2,0 | 25,0 | 1,7 |
| Jewellery | 27,6 | 1,5 | 20,5 | 1,1 | 23,1 | 1,2 | 18,4(1) | 1,1 | x | x | x | x |
| Processing of foodstuffs and beverages | 23,5 | 1,3 | 22,5 | 1,2 | 19,4 | 1,3 | 22,9 | 1,4 | 20,9 | 1,3 | 22,6 | 1,6 |
| Chemicals | 23,9 | 1,3 | 35,7 | 1,9 | 21,2 | 1,4 | 17,4 | 1,2 | x | x | 12,2 | 0,9 |
| Leather & leatherware | 23,1 | 1,2 | 20,7 | 1,1 | 18,5 | 1,2 | 16,9 | 1,1 | 19,6 | 1,3 | 25,8 | 1,8 |
| Wood | 20,5 | 1,1 | 20,8 | 1,1 | 15,7 | 1,0 | 16,2 | 1,0 | 14,1 | 0,9 | 10,0 | 0,6 |

x figures not available

(1) combined with plated ware

(1) Statistics of Production 1919-20, 1924-25, 1936-37, 1944-45, 1949-50, 1959-60 (5th, 10th, 20th, 28th, 33rd and 43rd Industrial Censuses)

TABLE 58

Total numbers employed in selected industries
in the western Cape
in 1939 and 1960

| Industrial Group | Number employed | | % |
|---|---|---|---|
| | 1939 | 1960 | |
| Textiles and clothing | 10 928 | 31 668 | 22,8 |
| Food and drink | 13 175 | 26 224 | 18,0 |
| Paper and printing | 3 491 | 10 034 | 7,1 |
| Chemicals | 2 864 | 7 603 | 4,7 |
| Engineering[1] | 5 211 | 5 791 | 4,1 |
| Wood products and sawmilling | 3 012 | 3 641 | 2,5 |
| Furniture | 2 079 | 3 466 | 2,5 |
| Leather and leatherware | 3 172 | 1 170 | 0,8 |
| Vehicles | 1 866 | 1 127 | 0,8 |
| All industries | 60 819 | 135 720 | |



The clothing and textile industry is primarily labour and market oriented. In developing countries the spinning and weaving industries usually develop first and grow out of local cottage industries to be followed by the growth of a clothing industry. In South Africa the pattern of development has been the reverse for the clothing industry was well established in Cape Town by 1920 while the spinning and weaving of cotton and artificial fibres has not introduced until after 1945.

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(1) Figures for ship and boatbuilding and repairing not available

The clothing industry was first established in Cape Town in 1889 when rubberized waterproof garments were made, although ordinary clothing was not manufactured until 1907.[1] This was a very natural development of the highly developed Malay tailoring trade, there being 151 tailor's shops recorded in the 'Juta's Street Directory for Cape Town' in 1912. At that time there was only one clothing factory and it was concerned only with the production of shirts.

TABLE 59

Number of clothing factories and woollen mills in the western Cape and the southern Transvaal in selected years[2]

| | western Cape | | | southern Transvaal | | |
|---|---|---|---|---|---|---|
| Year | Clothing | Knitwear | Woollen Mills | Clothing | Knitwear | Woollen Mills |
| 1920 | 22 | - | - | 11 | - | - |
| 1925 | 127 | 2 | 2 | 117 | 1 | 1 |
| 1930 | 135 | -[3] | 3 | 129 | - | - |
| 1937 | 234 | | | 439 | 1 | |
| 1940 | 254 | | 8[4] | 563 | | 13 |
| 1950 | 239 | | 13 | 493 | | 17 |



(1) "The Clothing Industry in S.A." H.A.F. Barker S.A.J.E. Vol 29 1961 p.243

(2) Census of Industrial Establishments for relevant years
Statistics of Production: 1919-20, 1924-25, 1929-30, 1936-37, 1939-40 1949-50 (1st, 10th, 15th, 20th, 23rd and 33rd Industrial Censuses)

(3) Accurate figures not available, but there was at least one in Cape Town

(4) Includes other textile mills

It was not until 1937 that both the number of factories and employees in the clothing industry in the southern Transvaal exceeded those in the western Cape because the Rand had by then become the largest market in the country. (Table 59)

Since the end of the Second World War in 1945 there has been a great deal of development in the clothing industry in Cape Town. Prior to 1939 shirts and pyjamas were the most important articles of clothing produced in Cape Town, the production of men's outer clothing being second. There were few knitting mills in existence. In the years following 1945 great changes in the industry have taken place including the establishment of a number of large knitting mills and a great number of small women's apparel manufacturing concerns. The numbers employed in women's apparel and men's shirt factories averages a little more than 100 workers each, while the numbers employed in knitting establishments average more than four times as many.

In the last two decades, as a result of increases in the population, particularly in the Coloured group, an improving standard of living, which has led to an expanded market and an increasing number of skilled Coloured hands, the western Cape and Cape Town in particular has become the leading centre in South Africa for the production of high quality clothing. Since 1961 the labour force in this industry has increased to 41 000 and the clothing industry has become the largest single employer of local labour; in the last five years, 1967-72, the number of factories manufacturing clothing in Greater Cape Town has increased from 216 to 274.

The textile and clothing industry may be divided into two parts, the older section which includes the spinning and weaving of wool mainly for the manufacture of blankets, and the newer which is engaged in the spinning and weaving of cotton for the shirt, pyjama and men's suiting industries.

TABLE 60

*Percentage of establishments in seven categories in Cape Town 1972

| | | Joinery | Engineering | Processing foodstuffs | Clothing & textiles | Printing | Furniture | Chemicals & paint |
|---|---|---|---|---|---|---|---|---|
| INNER ZONE | Central City | 0 | 7 | 10 | 22 | 60 | 4 | 12 |
| | District Six | 2 | 6 | 11 | 22 | 10 | 11 | 3 |
| | Woodstock-Salt River | 6 | 2 | 8 | 13 | 0 | 9 | 3 |
| | Observatory | 0 | 2 | 4 | 5 | 4 | 6 | 7 |
| | Kensington | 8 | 4 | 2 | 4 | 0 | 0 | 3 |
| | Maitland) Ndabeni ) | 4 | 3 | 16 | 4 | 5 | 11 | 3 |
| | Paarden Eiland | 21 | 28 | 12 | 2 | 7 | 6 | 27 |
| | Paarden Eiland N. | 2 | 3 | 1 | 0 | 0 | 0 | 3 |
| | | 43 | 55 | 64 | 72 | 86 | 47 | 61 |
| OUTER ZONE | Epping 1 | 11 | 8 | 8 | 3 | 0 | 0 | 10 |
| | Epping 2 | 15 | 7 | 11 | 2 | 1 | 0 | 7 |
| | Beaconvale | 0 | 5 | 0 | 5 | 4 | 11 | 3 |
| | Elsies River | 10 | 8 | 4 | 5 | 7 | 17 | 6 |
| | Bellville | 2 | 5 | 1 | 0,5 | 0 | 7 | 1 |
| | Sacks Circle | 2 | 1 | 2 | 1 | 0 | 0 | 1 |
| | Parow Industria | 8 | 3 | 4 | 4 | 0 | 0 | 3 |
| | Lansdowne (Flamingo Cres) | 2 | 1 | 1 | 1 | 1 | 9 | 1 |
| | Lansdowne (Glosderry Road) | 2 | 3 | 1 | 2 | 1 | 9 | 4 |
| | Wetton | 6 | 0 | 0 | 0,5 | 0 | 0 | 0 |
| | Diep River | 0 | 0,5 | 0 | 1,5 | 0 | 0 | 0 |
| | Retreat | 2 | 1 | 1 | 2,5 | 0 | 0 | 1 |
| | | 60 | 42,5 | 33 | 28 | 14 | 53 | 37 |
| | | 103 | 97,5 | 97 | 100 | 100 | 100 | 98 |

*Due to the rounding of figures the final total does not equal 100

About 70% of the clothing and textile concerns are located in the Inner Industrial Zone; 22% in the Central City, most of which are small, 22% in District Six, many of which are large and 13% in the Woodstock-Salt River area. The latter three areas constitute the "clothing belt" of Cape Town, which includes 35% of the clothing manufacturing concerns in the city. (Table 60)

A number of small concerns manufacturing women's apparel and employing small numbers of hands are often situated on the upper floors of buildings, which also house commercial and wholesale concerns,are found in this zone as proximity to the market rather than space is of prime importance. This older section of the industry was originally attracted to this part of Cape Town by the large potential labour force which used to live in the vicinity, but which is being shifted to the Cape Flats in accordance with the provisions of the Group Areas Act. It has remained in the Inner Zone as a result of industrial inertia.

The other more recently developed section of the industry, which is concerned with the spinning and weaving of artificial fibres, the manufacture of materials woven from these fibres and with the manufacture of women's apparel, is located mainly in the Outer Industrial Zone. There is a tendency for some of the clothing factories located in the Inner Industrial Zone to migrate to the newer suburbs, but these are in the main concerned with the manufacture of knitwear rather than with processes which involve cutting and sewing, for it is the former branch of the clothing industry which is expanding at a very rapid rate.

The spinning and weaving of wool is a relatively old established industry, but it is only recently that cotton and artificial fibres have been produced in Cape Town. As recently as 1954 a mill,which spins both artificial and natural yarns for the knitting, carpet and upholstry industries, was established in Bellville South, this particular factory obtaining its raw materials both locally and from abroad.

In the last ten to fifteen years the manufacture of artificial fibre has become increasingly important. The raw materials for the artificial fibre industry, nylon and polyester, were not produced locally until 1963. In that year the South African Nylon Spinners company (SANS) was established at Sacks Circle, Bellville South, to manufacture a large range of nylon and polyester threads for a variety of industries. When production began only 1,5 million kg of nylon were manufactured annually, but the figure has now risen to 9 million kg and it is estimated that in the near future production will rise to 15 million kg[1]. Because there has been a tendency for world-wide over-production in artificial fibres, the industry has had to be heavily protected in order to survive.

Although the South African Nylon Spinners factory works twenty four hours a day and seven days a week, it is unable to meet the local demand for artificial fibres, so that the balance has to be imported. About half of the production is absorbed by the clothing industry, while the remainder is used elsewhere, for example in the tyre industry. The company has introduced a textile development department where fibres are closely examined for flaws and experiments are made with manufactured textiles, testing for wear and tear under the roughest conditions. Advice is freely given to the clothing industry on the latest trends in oversea fashions, with the result that local manufacturers are often six months ahead of European and American rivals.

The textile industry in South Africa is structured horizontally, that is certain operations are performed and certain goods produced in a large number of factories. South African Nylon Spinners produce only nylon and polyester yarns in the round for use in the clothing industry and in the flat for use in the tyre industry. The yarns to be used in

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(1) The production of polyester fibre has also risen to 9 million kg per annum

clothing are sold to the next section of the industry, which bulks or deforms the yarn, that is, plucks or otherwise treats the thread in order to break individual filaments. This process is performed by the South African Nylon Processors, also established at Sacks Circle, which distributes the processed yarn, in bulked form, to the trade.

A small but extremely important branch of the textile industry is concerned with the making of fishing nets. Modern fishing nets are made of nylon or polyethene but both raw materials have to be imported, as the South African Nylon Spinners is not yet able to provide these heavy yarns.

The heavy yarns are braided and knotted into net panels by machines and finer yarns are knitted into knotless nets that are used for special purposes by the fishing industry.

The industry still uses a considerable amount of female hand labour; net panels are hand stitched to make a complete net, all repairs are performed by hand, the nylon yarn for the bags of trawl nets is braided by hand, and the bags are also hand woven. Crawfish nets are hand made from cotton thread and not nylon for should full nets be lost in stormy weather the cotton thread ultimately rots enabling the crawfish to escape.

The local market is most important for fishing nets manufactured in Cape Town but considerable numbers of nets are exported to Rhodesia, Malawi and Mozambique. The biggest foreign customer is Tenerife.

The cotton textile mills located in Cape Town are integrated more vertically than the mills producing artificial fibres. For example S.B.H. Cotton Mills,[1] established in 1951 in Epping Industria, are entirely vertically integrated. Here cotton, obtained largely from the eastern Transvaal, Rhodesia, U.S.A. and Brazil, polyester manufactured in Milnerton, and imported rayons are spun, woven, dyed and finished to

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(1) The letters S.B.H. are the initials of the surnames of the directors of an affiliated company, who are since deceased. That of only one, Hamely, is known

produce poplins for shirts, materials for boiler suits and dust coats and materials which are used in other industries. A material which is coated with polyuritana to give a finished product which exactly resembles leather is also manufactured.

S.B.H. Cotton Mills was originally established in Epping because of the close proximity to abundant Bantu labour, but the Government's policy of reducing Bantu labour in the Cape Western area has forced a reduction of this force at the mills. It is extremely difficult to obtain trained labour replacements annually and as this involves the industrialist concerned in so many problems, Bantu males have had to be replaced by Coloured males. As there is a large labour turnover, because employees are attracted to better paid jobs elsewhere - labour in textiles mills receives less pay than in other branches of the industry - and shift work is particularly unpopular among the men the factory is now being staffed almost entirely by women operators. In order to retain their services wages are now being paid which are higher than those normally paid to women in the clothing industry - a most unusual situation.

Two other problems have arisen in the course of the last twenty years; firstly as the industry has expanded at a very great rate its water requirements have risen to such levels that the danger of annual water shortages now poses a grave threat to the industry, and secondly, the disposal of effluent is becoming a problem as increasing quantities of caustic soda, acids and dyes are discharged into the public sewers. In the very near future production costs will be increased by the need to instal effluent purification plants.

The food processing industry, which employs 22,6% of the active workers in the western Cape and has a location quotient of 1,6 is located not only in Cape Town but also in the western Cape because "the canning industry exemplifies location that is determined almost entirely by

nearness to the perishable raw materials."[1]

Most of the food processing concerns in Cape Town are concentrated in the Inner Industrial Zone (64%) where they are either close to their sources of raw material, e.g. fish processing concerns are located in such a way that it is easy to assemble raw materials. More than one third of the remainder are located in Epping No.1 and 2 and include those concerns processing bulky raw materials, e.g. wheat and milk. (Table 60)

The food processing industry may be divided into two branches, one dealing with basic foodstuffs and the other dealing with luxury foodstuffs. The former branch includes the processing and packing of fish, meat and vegetables and fruit, the milling of wheat and other cereals, the extraction of edible oils from vegetable and animal sources, and the processing of these raw products and the baking of bread. The latter branch includes the manufacture of sweets, the bottling of soft drinks, the brewing of beer and the distilling of spirits.

In the first group, the location of the baking industry as Alexander has shown in the United States, is governed by three principles, the perishability of the product, the low weight loss ratio, i.e. the small difference in weight between the raw materials used and the finished product, and the fact that the costs of transport for the raw materials of the baking industry are lower than on the finished products, the former being transported in bulk at lower transport tariffs. The result is a strong tendency for this industry to locate near customers.[2] This accounts for the great number of bakeries found in Cape Town in 1920 when, as transport was slow and had a very limited range, it was necessary to proliferate small bakeries. Today the number of bakeries has been reduced to 6 large concerns which are still located near their customers in terms

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(1) J.W. Alexander: Economic Geography p.294

(2) Ibid

of delivery times although,as transport is more rapid and has a much greater range it is no longer economical to maintain a large number of small, neighbourhood concerns. Alexander has also shown that the more densely populated the settlements the larger the employment in baking. This correlation can be stated in a different way, the more densely populated the settlement the greater the concentration of bakeries, which is borne out by the fact that of the six major City bakeries four are located in the most densely populated part of the city, one in Woodstock, one in Salt River, one in Epping Industria, and one in Rondebosch, while the remaining two are situated much farther away both from the group of four and from each other, one in Lansdowne and one in Lakeside.

There are three major flour mills within the city limits. One is on the site of a small mill that was in existence on the banks of the Liesbeek river as early as 1818 and which, as a result of industrial inertia, has remained there and expanded. The second was built at the Salt River railway junction on vacant reclaimed swamp land conveniently situated next to the railway. The third, located in Epping was established there because of the large site and the availability of all the necessary facilities. The fourth mill, which is concerned with the milling of other grains and oil seeds is also situated on a convenient railway-side site at Maitland. The milling industry in Cape Town is rail-bound and therefore its location has been determined by convenient breaks in bulk points and the proximity of the market.

The remaining food-processing plants are scattered throughout both the Inner and the Outer Industrial Zones. Irvin and Johnson has one factory located in Woodstock, which is near the docks from where its raw material, fish, is derived. The remaining food-processing plants, which include several butter factories as well as a baby-food factory, are scattered in both the Inner and Outer Industrial Zones where easy access by road and

rail facilitates the assembly of raw materials and the dispatch of finished products.

Of the non-essential or luxury food-processing factories the largest are those manufacturing sweets, soft drink bottling plants and breweries. The two most important location factors for these industries are large sites and ease of access. The main raw material of the soft drink industry is water which can be obtained anywhere in a city, while the other raw materials, the sweetening and colouring syrups are either manufactured on the spot or imported. Compared to the quantity of soft drink produced the amount of syrup is very small, so that the proximity to the source of this raw material is of no importance. Bottling plants require a great deal of space because these plants are developed horizontally rather than vertically. Consequently the most important factors in the location of this industry is ample space and proximity to populous areas, so that the three largest plants are sited at Epping 1 and 2 and in Parow industria where both location factors, proximity to the market and space are satisfied. All these sites are conveniently situated in relation to the only bottle manufacturing plant in the city located in Sacks Circle, Bellville. The fourth bottling plant is located in Rondebosch, where especially suitable spring water is available.

The printing industry in the western Cape has a high location quotient (1.7). Most of the smaller presses (60% of the total) are scattered on the edges of the C.B.D., where their biggest market is located, but a few of the larger ones have been moved into the Southern suburbs and the Outer Industrial Zone (28%). The presses in the Outer Zone are usually large and tend to be concerned with the printing of very long runs and with a countrywide market, rather than with small local orders, and as these large printing works are also associated with the bulk packaging industry, which is located outside the central city, their need for central location is minimal.

The chemical and paint industry has increased in importance since the Second World War. It is represented in most of the industrial areas in Cape Town. Most of these concerns manufacture paint and about two-thirds (61%) are located in the Inner Zone (12% in the Central City). Paint factories require little space, depend upon imported raw materials and serve markets located on the edges of the C.B.D., consequently many have chosen these central locations for their operation.

The chemical industry is represented by three major concerns, the Caltex refinery, established in 1966, the Fedmis fertiliser plant, established in 1967 and African Oxygen. The two former concerns are located on the outskirts of Milnerton because they are regarded as noxious, because of proximity to the docks whence they obtain raw materials and because of a large area of flat land on which to establish extensive works. The African Oxygen works, which was originally established in Salt River in 1927 and moved to new premises in Epping No.1 in 1952, produces oxygen, argon and nitrogen, while in a newly built factory at Milnerton the largest carbon dioxide purification and liquification plant in Africa has been installed. The remaining chemical plants are very much smaller and are concerned mainly with the production of paints and varnishes.



The engineering industry did not expand to any extend between 1939 and 1960, there being an increase of only 600 workers. The engineering industry in the western Cape, in comparison to that of the southern Transvaal, is of relatively less importance and is concerned mainly with precision engineering and repair work for other industries. The industry is represented by a large number of small shops and but four major concerns.

An allied industry, ship and boat building and repairing, is of greater relative importance in Cape Town. The construction of wooden boats has always been important in the western Cape and as long as handline fishing continues it will remain so, the industry is located mainly in the docks as boats

are bulky and it is most desirable that they should be built as close to the sea as possible, although there are some smaller boat builders located several miles inland.

Several attempts have been made to establish shipyards for the construction of coasters and steel trawlers, but none appears to have proved economic. In 1950 Albert de Jong established a shipbuilding industry, but the venture was somewhat premature and the project was not a success.(1)

Globe Engineering and Dorman Long have both attempted steel ship construction, but the former firm has closed its yards and is concentrating on ship repair work, which is far more lucrative because as "fully 70 percent of any modern sophisticated ship has to be imported in the form of high precision parts, it cannot be built competitively in this country."(2)

The history of large scale ship repairing dates back to the Second World War when, in order to support the war effort and cope with the sudden influx of war damaged ships, the leading engineering firms, Globe and Dorman Long, combined temporarily, but with the cessation of hostilities the industry declined again.

In recent decades there has been a remarkable revival in the industry largely as a result of the closure of the Suez Canal, which has forced all shipping plying between Europe and the Far East to use the Cape route. Furthermore tanker companies prefer the facilities offered at the Cape, for the ships have an opportunity on the way to the port to clear dangerous gases from their tanks, which at the ports of discharge has to be done in port while the ships lie unproductive for several weeks. As a result "Whereas the repairing of ships was regarded at one time as a mere by-product of port working, it is now a major industry."(3) Today hull and

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(1) Extracts from a letter from C.H. Broers Asst. Managing Director John Thompson Africa (Pty) Ltd.

(2) Cape Times - 30th August 1972

(3) Ibid

machinery repairs form a large part of the work, the repair yards of Durban and Cape Town grossing R13 million per annum.

Unfortunately the repair facilities in the Cape Town Docks leave much to be desired. The main repair quay, which is used by the largest vessels, is at least 100 metres too short, is only three metres wide and has no crane facilities. The second quay can accommodate only ships of a limited size and also lacks lifting plant. The Railways and Harbours Administration has embarked on a R45 million scheme to create a new basin, but there are no provisions for improved repair facilities. Government policy is apparently aimed at attracting the industry to Durban which is much closer to the southern Transvaal, the source of much raw material used in the industry.

Despite these discouraging aspects, Murray and Stewart have recently leased a 7 800 square metre site at the eastern end of Duncan Dock where Dorman Long, Swan Hunter, and Globe Engineering already have repair yards. On this site a R500 000 development will take place which will include large boiler shops and workshops capable of dealing with marine fittings. These will be equipped with a mobile overhead crane to facilitate the handling of bulky steel plate and machinery.

Recently the harbour authorities came to the conclusion that it would not be feasible to develop a new graving dock capable of handling the largest vessels at Cape Town, because it will not be possible to widen the existing harbour mouth or provide the five new repair quays which would be required. As a result the largest of the local ship repair works will be encouraged to form a consortium to develop facilities at the harbour to be constructed at Saldanha Bay.[1] Any consortium of engineers will have to adopt one of two alternatives, either machinery to be repaired will have to

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(1) Cape Times - 30th September 1972

be railed to Cape Town, to repair facilities already available, a costly process, or large amounts of capital will have to be sunk in the construction of new repair yards at Saldanha. In the event of the latter alternative being adopted, it is hoped that it will be able to draw upon the large labour pool which is expected to accumulate in the Mamre area, which is to be developed as a new growth point in north-western Cape. The assembly of raw materials, in this instance mainly steel plate, would be a comparatively easy matter as the railway to be constructed from Sishen to Saldanha for the export of iron ore could be used for that purpose.

The woodworking industry has continued to thrive, although the location quotient has continued to decline from 1,1 in 1920 to 0,6 in 1960 but this does not indicate a dying industry, rather the fact that it has expanded more rapidly elsewhere, notably in the southern Transvaal. In 1920 most of the sawmills were located near the docks as close as possible to raw materials, the bulk of which had to be imported. By 1972 all these mills had been removed and some of them relocated elsewhere. Most of the sawmills in the Inner Zone are located in Paarden Eiland and a quarter are located in Epping No.1 and 2. All the latter are large concerns which require spacious sites and easy access by rail to the interior whence much of their raw material is now obtained.

The furniture industry originated in Cape Town in a number of small shops, often located in basements in the city where most of the work was done by hand by Malay craftsmen, many of whom were direct descendants of the slaves brought to this country from the East Indies. Output was small because most of the furniture sold in the shops was imported. Between the two wars the old style Cape Dutch furniture made from indigenous timber became popular and a leading manufacturer,G.H. Starke, set up a factory in Wesley Street, on the southern edge of the city, in 1935. A second large furniture factory was situated on the eastern edge of the city south of

District Six, close to the local market, a large local labour supply, and to the docks through which most of the raw materials required were imported.

Styles have changed and heavy wooden furniture has been largely replaced by mass produced pieces made from imported hardwoods, road transport has improved and proximity to labour or the market is not such an important factor as it was. Of greater importance today is the ease of access for trucks carrying the raw materials and the finished product, while abundant space for the storage of raw materials is of great importance. Therefore the newer furniture factories, which are comparatively large, are located in the newly developed parts of the Inner Zone as well as in Outer Industrial Zones.

The leather industry,which includes both the preparation of leather and its manufacture into consumer goods, is, like the clothing and textile industry, mainly labour and market oriented. Footware manufacturing has become highly mechanised in the last three decades, which accounts for the drop in the labour force in the industry in the western Cape from 3 172 in 1939 to 1 170 in 1960. (Table 58) Nevertheless the location quotient for the industry remains high (1,8) for as the better class shoe manufacturers still import fairly large quantities of material from abroad, the shoe industry must be located where imported materials can be easily assembled. Therefore the larger shoe factories are located either near the main railway to the north or in one of the new industrial suburbs, where these criteria are satisfied.

The vehicle industry in the western Cape declined as motor vehicles replaced wagons. Assembly plants were established by American manufacturers at Port Elizabeth in 1924-25, making Port Elizabeth and Uitenhage the main centre of vehicle manufacture therewith causing the rapid decline in relative and absolute importance of the vehicle industry in the western Cape until by 1937 the location quotient for the industry in the area

reached its lowest point, 0,3. During the Second World War three assembly plants were established in Greater Cape Town and the location quotient for the industry rose to 2,9. In the last decade the importance of the industry in the western Cape has declined again since the enforcement of the Government's policy of requiring the use of 60% locally manufactured parts in most types of motor vehicle assembled in South Africa. This policy has prompted all but two manufacturers to relocate in Durban-Pinetown or the southern Transvaal. Leykor, a company formed by the merger of Leyland and B.M.C., has retained two assembly plants in Greater Cape Town, one at Epping No.1 assembling trucks and the other on a 40 hectare site at Blackheath where 1 700 Coloured and 426 White workers are employed, producing more than 450 units a week.(1) Recently, Oskhosh has established a small plant to assemble heavy vehicles at Paarl.

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(1) Cape Times - 3rd December 1971

# CHAPTER VIII

## THE PROBLEMS OF WATER, FUEL AND THE DISPOSAL OF WASTE

The raw material which is vital to all industries, is water, without which there could be no power, no transport and no industry. Regrettably water resources in South Africa are poor and the western Cape is no exception and in fact has the smallest available water resources and reserves of the four major industrial areas in South Africa. The P.W.V. has the resources of the Vaal with additional water from the Tugela; Durban-Pinetown can draw on a variety of sources, including the Tugela; East London is located on the Buffalo, while in a few years time, the water supply of Port Elizabeth will be augmented by the Orange-Fish scheme.

Cape Town and the seventeen municipalities which it provides with water are not nearly as well provided. The three main sources of water are the Steenbras and Wemmershoek dams, which have a combined capacity of 20 000 million gallons and Voëlvlei, which it was estimated would provide some 34,9 million gallons per day between October 1st 1970 and May 1st 1971. Unfortunately, owing to delays in construction of pipelines, this figure could not be met but in July 1971 the City began to receive a daily input of 15,1 million gallons a day. When the diversion works at Twenty Four Rivers are complete, the Voëlvlei scheme should be able to provide Cape Town and environs with a total of 40 million gallons of water a day.(1)

It was estimated that in the summer of 1971 Cape Town and environs would consume 100 million gallons of water a day at peak periods. Of this total, the S.A.R., Escom and industries consumed more than 5 687 880 gallons a day. According to the City Engineer, the demand for water in this area

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(1) Cape Argus - 6th and 9th November 1971

TABLE 61 (1)

Consumption of water by industrial concerns in Cape Town

| Year | Consumer | Amount Consumed Gallons | Average Daily Consumption Gallons |
|---|---|---|---|
| 1936 | S.A.R. | 183 700 000 | 502 000 |
| | ESCOM | 16 490 000 | 45 000 |
| | INDUSTRY | 167 400 000 | 457 000 |
| 1940 | S.A.R. | 239 900 000 | 656 000 |
| | ESCOM | 13 820 000 | 38 000 |
| | INDUSTRY | 246 000 000 | 672 000 |
| 1950 | S.A.R. | 340 000 000 | 931 000 |
| | ESCOM | 21 720 000 | 59 000 |
| | INDUSTRY | 455 940 000 | 1 249 000 |
| 1960 | S.A.R. | 361 400 000 | 987 000 |
| | ESCOM | 43 940 000 | 120 000 |
| | INDUSTRY | 889 000 000 | 2 429 000 |
| 1970 | S.A.R. | 384 000 000 | 1 052 000 |
| | ESCOM | 63 880 000 | 175 000 |
| | INDUSTRY | 1 628 000 000 | 4 460 000 |

(1) City Engineers Department - Municipality of Cape Town

will double in the next twenty years. The Department of Water Affairs has estimated that the saturation point for Voëlvlei will be reached in the mid-nineteen eighties. The increased demand for water will be met, in the forseeable future, from supplies which will be stored in the Theewaterkloof dam.

To date very little research has been conducted in the Cape Town area into the purification and re-use of effluent, although a branch of the CSIR has started investigations into this problem. At present effluent in the Cape Town Municipality is disposed of at three points. Effluent from the Sea Point-Camps Bay area is disposed of into the sea, while that of the remainder of the City is dealt with at the sewerage disposal unit at Athlone, from which source the Athlone Power Station draws 1 000 000 gallons of water a day, and the Muizenberg ponds. Sewage is pumped into these ponds and the liquid is merely allowed to soak away and evaporate. Quite apart from a serious wastage of treatable water, the pollution problem inherent in such methods of disposal is enormous. On the other hand, the Municipalities of Milnerton, Bellville and Kuilsriver all have pilot plants treating effluent.(1)

The CSIR has been conducting a study, over a period of five years, on the possibility of storing water in natural aquifers underground. It has been estimated that about 312 000 million gallons of water, obtained by processing effluent, could be filtered and stored in the Cape Flats sand.(2)

It is extremely difficult to forecast accurately the consumption of water by industry in, say, the next fifty years, but it is absolutely clear that the whole development of industry must of necessity be geared

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(1) Personal conversation

(2) Cape Times - 18th November 1971.
Note that in this connection, the project has been taken over the the Department of Water Affairs and information connected with the scheme is now classified, therefore further details could not be obtained from the CSIR

to and controlled by the availability of water. It is doubtful whether many more "wet" industries will be allowed to develop. For example, the Unilever soap factory at Salt River uses 11,5 million gallons of water per annum, while the artificial and natural fibre processing industries also consume large amounts of water. Industrialists will have to be encouraged to install their own water reclamation plants.

There are two main methods of industrial water preservation. The first, not a particularly economical method, is the recycling of water, whereby the same water is used over and over again for different processes, but becoming more degraded with effluent as re-use goes on. Finally, such water would have to be purified or disposed of. On the other hand, industrial water can be partially or completely reclaimed at different stages in the manufacturing process. This latter method is costly, and obviously will not be used unless it can be effected economically.

Thorough investigations into the desalinisation of sea water have been made in many parts of the world, but there are still numerous problems to be overcome before the process becomes economically viable. One problem is the enormous cost involved in the process. Others include the fact that when the water has been desalinated it is distilled, which gives rise to the problem of storage. Secondly it will become impossible to deal with the great amount of salt, which will become available as a by product of desalinisation, as the surplus will be too great to be disposed of on the domestic market and it will not be possible to dump it back into the sea. Thirdly the problem of finding sufficient power for the desalinisation of large amounts of seawater remains. The CSIR considers it to be wishful thinking to suggest that power from the proposed nuclear power station at Melkbosch Strand be used and in any case it is now not considered likely that the power station will be built at all.

# CHAPTER IX

## INDUSTRY AND THE LABOUR PROBLEM

At the beginning of the period under review, circa 1920, few conscious attempts had been made to separate the different races in the industrial field. When the Hertzog Government came into power in 1924 the picture began to change. The ruling party was strongly Nationalist and Republican in outlook and was most concerned about the Poor White situation, which had developed after the Boer War largely as a result of a change in practice from a subsistence type of agricultural economy to one which was oriented towards local and oversea markets. An attempt had to be made to employ the numbers of industrially totally untrained and often illiterate Whites who were flocking into the towns in search of work. These people could not compete in the unskilled labour market because they could not exist on the wages currently being paid to Bantu and Coloured labour. In an attempt to solve the problem the government introduced the Civilised Labour policy, whereby industrialists were forced to employ White labour in preference to Coloured Bantu or Asiatic by threats to withhold customs protection afforded by the Customs Tariff and Excise Duties Amendment Act No.36 of 1925 if they did not comply. As a result, between 1916-17 and 1928-29, the White labour force in the western Cape increased by 43 000 from 46 100 to 89 141 (51%) and the non-White force by 50 000 from 77 742 to 128 345 (37%)

As a result of the depression between 1930 and 1933 the number of employees in industries in the western Cape declined. The total labour force in the private industrial sector was reduced by 6 964 from 41 810 to 34 846 (16,3%). The non-White sector was most affected, 5 929 (24,6%) being laid off between 1930 and 1933, while only 135 (0,8%) Whites were retrenched in the same period. (Table 62)

TABLE 62[1]

Numbers employed in private industry in the western Cape
1929-30 and 1932-33

| Number of Workers | 1929-30 | 1932-33 | Total Change 1930-33 | % Change 1930-33 |
|---|---|---|---|---|
| All races | 41 810 | 34 846 | -6 964 | -16,3 |
| Whites | 17 718 | 16 583 | - 135 | - 0,8 |
| Non-Whites | 24 092 | 18 163 | -5 929 | -24,6 |

TABLE 63[2]

Numbers employed in private industry in the western Cape
1928 to 1933

| | 1928-29 | 1929-30 | 1932-33 | Total Change 1928-33 | % Change 1928-33 |
|---|---|---|---|---|---|
| White males | 14 336 | 14 312 | 12 341 | 1 995 | -13,7 |
| White females | 3 388 | 3 406 | 4 242 | 854 | +25.2 |
| Non-White males | 19 329 | 18 669 | 12 979 | 6 350 | -32,8 |
| Non-White females | 5 467 | 5 423 | 5 184 | 283 | - 5,1 |



(1) Statistics of Production 1929-30, 1932-33 (15th and 16th Industrial Censuses)

(2) Ibid 1928-29, 1929-30, 1932-33 (14th, 15th and 16th Industrial Censuses)

As wages paid to females employed in industries were lower than those paid to men, only 283 non-White women (5,1%) were laid off during the period 1928-33, and the number of White women employed rose from 3 388 to 4 242 (25,2%). The more highly paid men suffered most, particularly non-White men whose numbers were reduced by 6 350 (32,8%), while the White male labour force was reduced in numbers by a smaller degree by 1 995 (13,7%). (Table 63)

In the year following the depression the bulk of the positions occupied by White males in industry were refilled as were those occupied by White female operatives. Less than half of the number of non-White male positions were refilled, but the number of non-White females employed increased by 604 in the period 1928-34. Experience appears to have shown that in many capacities female labour was as efficient and capable as male labour and because wages paid to females, particularly non-White females, were lower than those paid to males, industrialists tended to employ more women . (Table 57)

In the period 1932-40 the total labour force in industry in the western Cape increased by 43%, the non-White sector increasing by nearly 50% from 18 000 to 35 400. Greater numbers of Whites, particularly males, were being employed in an increasing number of jobs in tertiary industries, for these were more lucrative as well as being less monotonous than machine minding. Furthermore as more modern machinery was installed the need for skilled male labour decreased and men were replaced by semi-skilled females. (Table 65)

During the Second World War industrial expansion precipitated a rapid increase in the numbers employed, particularly the number of non-Whites. In the period 1939-45 the total number of workers increased by 19 342 (27,8%), the number of Whites by only 208 as many were diverted to active service and the number of non-Whites by 19 144 (38,4%). (Table 66)

TABLE 64[1]

Numbers employed in private industry in the western Cape
1932 - 1934

| | 1932-33 | 1933-34 | Total Change 1932-34 | % Change |
|---|---|---|---|---|
| White males | 12 341 | 13 594 | 1 253 | 10,1 |
| White females | 4 242 | 4 986 | 744 | 12,5 |
| Non-White males | 12 979 | 15 411 | 2 432 | 15,8 |
| Non-White females | 5 184 | 6 071 | 887 | 12,9 |

TABLE 65[2]

Numbers employed in private industry in the western Cape
1932 - 1940

| | 1932-33 | 1939-40 | Total Change | % Change |
|---|---|---|---|---|
| All races | 34 846 | 60 819 | 25 973 | 42,6 |
| Whites | 16 583 | 25 390 | 9 807 | 38,6 |
| Non-Whites | 18 163 | 35 429 | 17 266 | 48,7 |



(1) Statistics of Production 1932-33, 1933-34 (16th and 17th Industrial Censuses)

(2) Ibid 1932-33, 1939-40 (16th and 23rd Industrial Censuses)

In the five-year period following the ending of hostilities the total labour force increased by nearly 36%. The non-White female labour force in private industry in the western Cape increased by 32% to 19 244 and the White employees increased by nearly the same percentage to 20 000. The number of White females employed remained small (7 000) and increased by only 10%, for during the war years White females had been employed in increasing numbers in commercial and retail concerns where they tended to remain after the cessation of hostilities. Non-White males played a prominent role in industry, providing more than half of the total labour force. (Table 66)

The development of the industrial employment structure in private industry in the western Cape may be summarised as follows. Between 1920 and 1924 no particular labour policy was enforced and both White and non-White labour was employed on a basis of ability and skill rather than race. In 1924 the Government indicated that it would favour industries which gave preference to White labour and in the depression years a general retrenchment followed, particularly retrenchment of Coloured males, and only the White female force increased. (Table 67) Following the depression and before the outbreak of the Second World War there was a marked revival of industrial activity which resulted in considerable increases in the numbers of all races employed. During this period non-White males employed began increasingly to outnumber the White male labour force.

In the interwar years increasing numbers of White females were employed in semi-skilled and repetitive jobs in industry. One consideration in relocating the Lion Match factory in Observatory in 1924 was the fact that in that suburb there was a considerable pool of suitable White female labour and the United Tobacco Company was also relocated in 1949 in the same area for the same reason. Lever Brother's soap factory also employed

TABLE 66[1]

Numbers employed in private industry in the western Cape
1939 - 1945

| | 1939-40 | 1944-45 | Total Change | % Change |
|---|---|---|---|---|
| All races | 50 167 | 69 509 | 19 342 | +27,8 |
| Whites | 19 725 | 19 933 | 208 | + 1,9 |
| White males | 13 381 | 13 677 | 296 | + 2,2 |
| White females | 6 344 | 6 246 | -98 | - 1,5 |
| Non-Whites | 30 442 | 49 586 | 19 144 | +38,4 |
| Non-White males | 22 924 | 36 487 | 13 563 | +36,8 |
| Non-White females | 7 418 | 13 099 | 5 681 | +43,3 |



TABLE 67[2]

Numbers employed in private industry in the western Cape
1945 - 1950

| | 1945 | 1950 | % Change |
|---|---|---|---|
| White males | 13 677 | 20 041 | 31,8 |
| White females | 6 246 | 7 145 | 9,9 |
| Non-White males | 36 487 | 50 453 | 27,7 |
| Non-White females | 13 099 | 19 244 | 32,4 |

(1) Statistics of Production 1939-40, 1944-45 (23rd and 29th Industrial Censuses)

(2) Ibid 1944-45, 1949-50 (28th and 33rd Inudstrial Censuses)

numbers of White females who were used as soap wrappers, a good worker being capable of wrapping as many as 25 gross of soap tablets a day. The type of labour employed in this factory underwent a change after the outbreak of the Second World War, for as White women were employed in jobs previously filled by White males so their places were taken by non-White males. By 1943 all the labour employed in this factory, with the exception of the supervisory staff, was non-White

White females were still employed in the match industry in 1951, but by 1952 the last of these had left to find employment in more attractive, better paid work in shops and offices and their places had been taken by non-White males. In the meantime, in order to speed up production and reduce costs, automation was introduced into the Lion Match factory. As there are few supervisory posts in the factory and as a non-White male can be trained to operate the necessary machinery in a day, very little scope is left for advancement, with the result that the turnover of male labour is high, and is gradually being replaced by non-White female labour.

The fish-processing and canning industry employs considerable numbers of non-White females. A major problem is created by fluctuations in the size of the daily catch - the size of the labour force being dependent upon the tonnage of fish landed, consequently Irvin and Johnson employs as many casual as permanent labourers although casual labour is generally unsatisfactory as it tends to be footlose. These employees have to be paid every three days and as they tend to absent themselves from work for the remainder of the week turnover is high.

South African Nylon Spinners has developed a training school in charge of a staff training manager, in which new recruits are introduced to processes involved in the manufacture of nylon thread and in which employees with several years service may undergo leadership and promotion courses.

Difficulty is experienced in finding suitable material to train for leadership, for little leadership potential exists in a labour group whose qualifications do not usually extend beyond the standard 7 level. A decade ago Coloured matriculants entered the industry, but as more and more white-collar jobs become available to educated non-Whites they leave industry and enter more lucrative jobs in commerce.

A problem facing industrialists today is not so much a shortage of labour as a shortage of skilled labour. Visiting industrialists from Europe are amazed at this so called labour shortage as "they thought it ridiculous that a country with 14 million indigenous people who were 'not allowed to work' should talk about labour shortage,..... they were unsympathetic. They said that if we have a labour shortage it is one of our own making."(1) One industrialist has stated that no other government in the world has arranged to create unemployment and a labour shortage at the same time.(2)

Printing is one of the few trades that does not suffer to the same extent from labour problems. There is no colour bar in the Printing Trade Union, although White employees make conditions difficult for Coloured apprentices to enter the printing industry, unless they join an entirely non-White firm or a White-controlled firm with a Coloured department.(3) One such firm is Lampson Paragon, which employs a large number of non-Whites in positions of responsibility, including female printers' assistants who are often found to be more efficient than their White counterparts. This firm has opened a branch at Epping which is staffed almost entirely by non-White employees.



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(1) Tom Murray: President of the Trade Union Council of South Africa Sunday Times - 7th November 1971

(2) Personal conversation

(3) Francis Bowers - Cape Times - 27th November 1971

Two employment problems in industry are alcoholism and absenteeism, both of which have their roots in social problems. In recent years, as a result of the operation of the Group Areas Act, large numbers of non-Whites have been uprooted from their traditional homes in District Six, Woodstock, Salt River, Newlands, Claremont and Wynberg and sent to live in newly developed economic and sub-economic housing estates on the Cape Flats where often only the barest essentials for civilised living are available. These undesirable conditions are the result of the huge backlog of housing caused largely by the Department of Community Development claiming a high percentage of newly built houses to accommodate people who have been evicted from otherwise sound houses elsewhere. In some of the new townships roads are unmade, electric light is non-existent and in winter the low lying areas become hopelessly flooded. Ordinary social amenities such as crèches, halls, and other recreational facilities are usually absent and furthermore local transport companies cannot cope with the large commuter population so that services are often bad or non-existent. It is not surprising that under these circumstances the crime rate is high and alcoholism is rife. Both lead inevitably to absenteeism, particularly at the beginning of the week. Some larger firms are taking steps to overcome these problems with varying degrees of success. For example, Nestlés, situated off Kasselsvlei Road, has engaged women fork lift truck drivers because men were found to be so unreliable.

The Personnel Management of Reckitt and Colman has investigated the labour problem in a more scientific manner. Their food processing plant has a floating labour force, whose numbers fluctuate with the seasonal fluctuations of vegetable produce, so that the labour turnover has reached 120% per annum but it is essential to maintain as stable a labour force as possible for factory production cannot be increased rapidly as long as new

labour has to be trained. It was realised that, as the Coloured population group provides the bulk of the industrial labour force in the western Cape, it is essential to improve the standard of living and education of the group.

It has been found that Coloured labour responds well to the proper leadership, but very often older White supervisors are not sympathetic to those who work for them , which leads to further labour problems. It is difficult to find good leadership material among the Coloured employees, because many who enter industry are not always interested in improving themselves.

In this factory monthly absenteeism as a result of ill health is as high as 10% of the labour force, but it has been found in a Durban based factory that this figure can be reduced by half by employing a full-time doctor. The management of Reckitt and Colman has instituted a system whereby the Personnel Department enquires into the reasons for all absenteeism with the result that the number of employees not reporting for work has decreased. It has been found that it is essential to follow up each absenteeism investigation with positive remedial action, because if this is not done the absentee rate soon increases again.

A common complaint by the managements of industrial concerns employing Coloured labour engaged in heavy manual work is that these employees do not have the stamina to carry on their work for any length of time. Fifty years ago most heavy manual labour was performed satisfactorily by Coloureds because there were few openings in the better paid jobs in industry for them, but during this period Whites have vacated less lucrative jobs in commerce and industry and better educated Coloureds have taken their places leaving only those who are workshy or so degenerate as a result of disease, malnutrition and alcoholism that they are quite useless to perform any form of heavy unskilled labour. A possible answer to the problem lies in increasing mechanisation.

Industries where work is carried on on a shift basis experience the greatest difficulty in obtaining labour. Workers make awkward hours an excuse for leaving their employment in search of other work which does not involve night shifts. It is particularly difficult to employ women on shift work for employers are legally bound to arrange that all female employees be transported between their places of work and their homes between the hours of 6 p.m. and 6 a.m. Many factory managements wish to introduce their own transport but if public services are available they are forbidden by the Road Transportation Board to do so although public transport services are often both inadequate and costly.

Of the greatest moment to industry at this time is the gap in the standard of living which exists between White and non-White. Mr. Theo Gerdner, when Minister of the Interior, referred to this matter on several occasions and pointed out the great dangers to the whole community that are inherent in it. If this gap were closed it would benefit employers and employees, White and non-White alike for as the leader of a visiting German trade mission to the Republic stated recently: "If the country were to develop, it must have a bigger home market. After about two years that could well come about, but largely through an enormous effort to raise the buying power and living standards of the non-White people." (1)



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(1) H.J. Steigerwald, Cape Argus - 13th November 1971

(2) According to Hobart Houghton the sum spent on clothing and footwear increases in proportion to an increase in income. An African family earning less than R200 per annum spends nothing on clothing but a family with an annual income of more than R600 spends 11,2% of its income on clothing. Likewise White families earning less than R1500 per annum spend 11,5% of their income on clothing, while a family earning between R2500-R3000 spends 13,8%. (Table 68)

TABLE 68[1]

Expenditure of White and African families

1955

| | | Percentage of income devoted to | |
|---|---|---|---|
| | Income Group | Food | Clothing & Footwear |
| African families | Less than R200 | 61,7 | NIL |
| | R200 - R400 | 43,1 | 4,9 |
| | R400 - R600 | 35,8 | 7,6 |
| | Over R600 | 30,8 | 11,2 |
| White families | Less than R1500 | 30,0 | 11,5 |
| | R1500 - R2000 | 28,6 | 11,9 |
| | R2000 - R2500 | 24,5 | 12,6 |
| | R2500 - R3000 | 24,0 | 13,8 |
| | R3000 - R4000 | 19,8 | 11,4 |
| | Over R4000 | 17,8 | 11,5 |



G.J. Nel, the secretary of the Labour Affairs Division of the Cape Chamber of Industries, has said that "It has become abundantly clear that there is an urgent need to raise the living standards of our Coloured people and to narrow the wide gap between White and Coloured earnings. This should preferably be achieved by way of economic growth.

What is needed, is a change in human attitudes towards our Coloured people. Surely they should not be denied entry into skilled trades provided they possess the necessary education and aptitude? It is commonly known that social barriers exist which militate against entry of Coloured into certain types of jobs. However, such barriers are not immutable and in

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(1) D. Hobart Houghton: The South African Economy p.164

time society will find ways and means of overcoming such barriers.

We should realise that any responsible South African citizen has two ambitions. To progress and to give his children a better chance in life than was his lot. In short, it is essential in the years that lie ahead to furnish our Coloured people with the opportunity to realise these two ambitions."(1)

What is the solution? How is industry to furnish the Coloured people with better opportunities? Does the answer lie in compulsory education, for even compulsory schooling up to standard 8 must have a stabilising effect upon what has been described as a "foot loose" race. On the other hand, Dr. R.E. van der Ross takes a rather more gloomy view, because he maintains that there is the alarming possibility that the average Coloured worker will not "be able to break out of the category of low-level workers.."

"The risk is that they will continue to be a pool of cheap labour for Cape Town, unable to produce such skills as will enable them to command higher posts, and this is said in full knowledge of what is being done to provide schools, etc., for this population. The risk is that they will continue to be sub-economic.

We see the sad picture of a man unrespected, therefore lacking in self-respect, unable to command respect even from his own family (partly because he is unable to provide for that family properly), and turning, therefore, to other forms of self-gratification and ego-boosting.

That these include drink, dagga, violence, is only a symptom of the inadequate personality which the social system has produced."(2)

The Bantu labourer on the other hand has few personality problems in his character and is admirably suited to dull repetitive work as well as heavy manual labour. For example, when it became difficult to obtain White

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(1) G.J. Nel - Cape Times - 19th November 1971

(2) Cape Times - 19th November 1971

females to handwrap soap tablets at Lever Bros. soap factory Bantu males were employed and proved to be eminently satisfactory. But, in accordance with Government colour policies, Bantu labour employed in industries located in the western Cape was frozen at the 1966 level and since then there has been an enforced reduction of 5% per annum of this labour force. Thus industrialists have found their quota of Bantu labour diminishing. Applications can be made to the authorities for the stabilization of quotas, but this involves factory management in so much 'red tape' that many firms have given up attempting to obtain such labour. When a quota is maintained there is the additional disadvantage of having to return each labourer physically to the Bantu Homelands every twelve months in order that work permits may be renewed. This is costly in both time and money and there is no guarantee that the same labourers will return to the same work, so that firms are apt to be continually involved in training new recruits.

The problem of the availability of Bantu labour has affected the location of some industries, particularly heavy engineering. Some industrialists engaged in this type of work have found it difficult to carry on production as the average Coloured male is not suited to heavy manual work. This is one reason for the closing of the Chrysler assembly plant formerly located at Elsies River, which has now been moved to the border of a Bantu Homeland just north of Pretoria where there is a readily available Bantu labour force. The effect of job reservations, enforced removals of labour and the colour bar on industry are best summed up in the words of D. Hobart Houghton. "Apart from any long-term political consequences arising from the frustrations it engenders, the industrial colour bar has a number of immediate consequences which adversely affect national productivity. In so far as it prevents any man from performing a task for which he is competent, and confines him to one which is less

skilled, there is economic waste of scarce resources..... In the denial of opportunities to non-Whites, waste is incurred not only in the jobs they are precluded from performing, but also because of the effect this has upon their incentive to excel in the work they are permitted to perform" (1)

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(1) D. Hobart Houghton: The South African Economy p.149

# CHAPTER X

## CONCLUSIONS

Within five years of the establishment of a victualling station at the Cape in 1652 three industries had been established; a mill, a brewery and a brick kiln. In the years which followed, these basic industries grew in number and others,which included a silk spinning mill, a wine press, a glass works, wagon building works, fell mongering, wool washing, tanning and the drying of fish,were added, but no spectacular growth or development occurred in local industry until the end of the first decade of the 20th century.

The outbreak of the First World War in 1914 marked the end of this 250 year era during which industries based on the processing of agricultural raw materials, had developed.

As the war proceeded, a variety of consumer goods, which had been imported from overseas sources, became increasingly difficult to obtain and attempts were made locally to overcome these shortages. It was the protection offered by hostilities that allowed the clothing industry, which in 1914 consisted of one factory producing rather poor quality shirts,to expand in the following five years to nine clothing factories.

The cessation of hostilities brought a flood of cheap mass-produced articles of clothing into the country from Europe and the U.S.A. which placed the infant industry in grave jeopardy. This and many other industries were saved by the timely introduction by the state, in the twenties, of revised import tariffs and a system of industrial protection.

Between the two world wars industries, and particularly the clothing industry, continued to expand and by 1940, 55 clothing factories and 6 woollen mills had been established in Greater Cape Town. The numbers of factories engaged in the processing of food and drink, printing, engineering and the manufacture of furniture and footwear all grew in numbers.

The Second World War also had a stimulating effect on industrial growth. By 1950 the number of clothing factories in Cape Town had doubled, (109) the knitting industry had become well established, the food processing industry had expanded and the number of engineering establishments had increased four fold since 1910.

By 1960 the ship repairing industry had expanded considerably and a large boiler works, three heavy engineering concerns and a bottle manufacturing plant had been established in the northern suburbs. In the following decade the artificial fibre spinning and weaving industry became established and the motor assembly industry expanded.

In the last five years the latter industry has declined in importance in Cape Town as a result of the introduction of the Government's policy requiring vehicle assembly manufacturers to use a large proportion of locally manufactured components in automobiles, which has attracted the industry to the southern Transvaal. In the same period the clothing industry continued to expand and more than 40 000 workers are now employed in it.

Patterns of location of industry in Greater Cape Town have also changed in the last seventy years. In 1920 nearly all manufacturing industries in Cape Town were located in three areas; near the entrance to the docks; on the northern and western edges of the town, along Dock Road and Buitengracht Street; in District Six, Woodstock and Salt River, along Sir Lowry Road, Albert Road and Victoria Road. Between the two World Wars the number of industries continued to expand in these areas, where they were served by the docks, adequate road and rail transport and a large Coloured population, which provided the necessary labour.

After the Second World War manufacturers began to look about for new areas into which enlarged factories could move. The development of Paarden Eiland as an industrial estate commenced a new era of industrial growth.

In the following two decades expansion continued rapidly and new industrial estates were established along the railways and main roads leading to the interior and to Simonstown. In accordance with Government policy a large proportion of the Coloured population has been rehoused on the Cape Flats so ensuring an adequate supply of labour for industries in the newly established estates.

Industry in Cape Town has not been without its problems which include a shortage of trained labour, a lack of locally mined minerals and coal, water shortages and great distances from the other manufacturing centres in South Africa. Local industrialists constantly complain of the quality of unskilled Coloured labour which is not capable of nor prepared to perform heavy manual work. This lack of ability and willingness may be attributed to various social ills which include drink, dagga, poor housing and a lack of social amenities and education. A lack of mineral resources has been a marked disadvantage and has tended to curtail the growth of certain industries, for example metal and engineering. The long distance haulage of coal from mines more than a thousand kilometres away increases the cost of generating electicity and consequently manufacturing production costs. Water shortages also pose problems. As a result it is not possible to expand factories in which processes dependent on large quantitites of water are carried out nor to establish new ones. Distance from the other manufacturing centres has always been a disadvantage for transport costs raise the price of raw materials imported from other centres for processing in Cape factories and similarly increase the cost of goods sold in inland markets.

In the Report of the Executive Council of the Cape Chamber of Industries for 1970-1971 it was stated that "the Western Cape was capable of further industrial development, which was highly necessary, but that certain

factors militated against development and needed to be tackled." (1) One of these factors is the incentives offered to encourage manufacturers to establish industries in the border areas which the Council felt would curtail development of industry in Greater Cape Town. Recent industrial growth in Great Cape Town appears to contradict this view.

Factors which favour the continued growth of industry in the western Cape outweigh those which are disadvantageous; it has been projected that by 1980 the Coloured population of the western Cape will have increased by 325,000 to 1,092,000 which, it is hoped, will increase the availability of labour and overcome the industrial labour shortage which existed in 1971(2); there is abundant land available for further industrial growth, particularly on the Cape Flats; water supplies are assured up to 1981 and the Department of Water Affairs is examining the possibilities of extending these supplies; all transport services are well developed and there is abundant electric power. Harbour development in Table Bay should encourage the export market and the exploitation of minerals in the northern Cape and their export through Saldanha will possibly lead to the establishment of an industrial growth point in the Saldanha district, which will in turn lead to an expanded market for Cape Town based industries.



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(1) Report of the Executive Council, Cape Chamber of Industires Year Book and Directory 1970-71. p 17.

(2) In 1971 there was a total shortage of 9,600 workers, 4,388 skilled operatives and 3,213 unskilled workers. Cape Chamber of Industries Year Book p 23.

APPENDIX A

## SASKO FLOUR MILL

Sasko mill is located on the east bank of the Liesbeek River at the northern end of Rondebosch Station. The first mill on this site was established in 1810. By the turn of the 18th century the population of Cape Town had increased to a point at which flour mills with a greater milling capacity than wind driven mills had to be built. Running water was the best form of power available at the time, consequently the mill was established on the banks of the perennial stream, after water rights on the Liesbeek had been granted to its owner by the Court of the Heemraden. In the summer the volume of the river declines considerably so that, in order to store water and maintain a constant level, wooden sluice gates were built at a point on the north side of the present Belmont Road bridge.

In 1855 the mill was destroyed in the great fire at Rondebosch but was rebuilt and equipped with two, water driven, stones, which were able to mill two and a half bags of Boermeal an hour. In 1876 a second pair of stones was added and hourly output was increased to five bags an hour.

In 1883 the mill was bought by Messrs. Sinclair and Forrest and was known as John Forrests until it was taken over by Sasko (Suid Afrikaanse Sentrale Kooperatiewe Graanmaatskappy Beperk) in 1937. In 1883 the mill was modernised and enlarged by the addition of a second storey. Production capacity was now increased to seven and a half bags an hour and included bread flour and bran as well as coarse flour. At this time water power was augmented by the introduction of a steam engine.

In 1917 the mill was again modernised, the steam engine was replaced by a more powerful one and water power was finally dispensed with.

Production was thereby increased to twenty-five bags an hour. After the end of the First World War electrically powered milling equipment was installed and the steam engine disposed of.

Sasko was formed by local wheat farmers in order to protect themselves from millers who refused to buy wheat when it was plentiful because low wheat prices would depress the price of flour. In 1946 Sasko built a four storied mill with a capacity of fifty bags an hour and in 1955, in order to obviate the necessity for storing bags of grain in sheds where it was vulnerable to rats and other pests, forty-four concrete silo bins were erected at a cost of R500 000.

Access to the mill has been provided by the construction of a spur from the suburban railway and the small freight yard at Rondebosch provides temporary storage space for grain trucks. Most of the milled grain, chiefly bread flour, is sold locally and in order to reduce rail haulage costs, is transported by road. A large amount of flour is used by the bakery located beside the mill and small quantities are exported to Natal.

Flour milling is a highly mechanised process so that the number of hands employed is small in relation to the production output, but because it is a twenty-four hour a day process the labour force must be sufficiently large to allow for three work shifts. This force consists of ten White millers, who supervise the manufacture of the finished product, twenty-four Coloured and one hundred and fifty Bantu males. As regular transport is not available from Langa throughout the twenty-four hour period, the Bantu labourers are housed on the spot.

Wheat for the mill is supplied by the Wheat Industry Control Board. The Board controls the entire wheat milling industry which it subsidizes by R22 000 000 per annum. The Board, in consultation with the National Chamber of Milling and the Marketing Council, fixes the price of wheat

annually and purchases the crop. The Board supplies the mills with grain. In order to prevent cross hauling the crop produced in the western Cape is milled in that province and that of the Orange Free State is disposed of in the other three provinces. The Board is also responsible for importing wheat to make up for shortfalls in home production, but as in 1970, 1971 and 1972 harvests were exceptionally good there has been a surplus of grain, this was not necessary, although 1 000 000 tons of wheat was imported in 1970 as a safeguard against any future shortage.

## MOSSOP AND SON (TANNERS AND CURERS)

The tannery was established in 1846 and was located on the east bank of the Liesbeek River opposite the flour mill in what was open countryside. Despite the vicissitudes of the leather industry the tannery has always remained financially viable. In 1919 Mossop's made history by exporting forty-two tons of leather to the United Kingdom. In 1920 products of glace kid using South African goat skins was started. In 1936 the tannery produced seventy-two different types of leather, but, because of the introduction of plastics and imitation leather for uppers in the manufacture of footwear, output has been reduced to six varieties. Included in these is a suede type leather produced in a variety of colours and manufactured primarily for the furnishing and fancy goods trade.

APPENDIX B

TABLE 1

The percentage of the total labour force in South Africa employed in industries in the western Cape and relevant location quotients for the years 1920, 1925, 1930, 1937, 1945, 1950 and 1960

| | Industrial category | 1920 | | 1925 | | 1930 | | 1937 | | 1945 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | L Q | % | L Q | % | L Q | % | L Q | % | L Q | % | L Q | % | L Q |
| I | Processing of agricultural and pastoral raw materials | 10,4 | 0,5 | 12,8 | 0,7 | 10,1 | 0,6 | 11,0 | 0,7 | 11,3 | 0,7 | x | x | x | x |
| II | Processing of clay, stone, etc. | 6,5 | 0,3 | 8,9 | 0,4 | 10,3 | 0,6 | 10,5 | 0,7 | 10,3 | 0,7 | 10,1 | 0,7 | 13,2 | 0,9 |
| III | Working in wood | 20,5 | 1,1 | 20,8 | 1,1 | 19,2 | 1,0 | 15,7 | 1,0 | 16,2 | 1,0 | 14,1 | 0,9 | 10,0 | 0,6 |
| IV | Metal, engineering, etc. | 11,1 | 0,6 | 6,1 | 0,3 | 7,1 | 0,4 | 8,9 | 0,6 | 5,7 | 0,4 | 6,1 | 0,3 | 6,3 | 0,4 |
| V | Processing of foodstuffs and beverages | 23,5 | 1,3 | 22,5 | 1,2 | 23,4 | 1,2 | 19,4 | 1,3 | 22,9 | 1,4 | 20,9 | 1,3 | 22,6 | 1,6 |
| VI | Clothing and textiles | 37,4 | 2,1 | 31,2 | 1,7 | 36,6 | 1,9 | 30,1 | 2,0 | 27,9 | 1,8 | 27,8 | 1,7 | 27,9 | 2,0 |
| VII | Books, paper & printing | 32,4 | 1,8 | 35,7 | 1,9 | 35,8 | 1,9 | 32,3 | 2,1 | 29,6 | 1,9 | 31,5 | 2,0 | 25,0 | 1,7 |
| VIII | Vehicles | 17,3 | 0,9 | 12,6 | 0,7 | 11,3 | 0,6 | 13,1 | 0,3 | 45,6 | 2,9 | 11,1 | 0,7 | 13,8 | 0,9 |
| IX | Ship and boat building and repairing | 41,9 | 2,3 | 62,6 | 3,4 | 59,9 | 3,2 | 49,9 | 3,3 | x | x | x | x | x | x |
| X | Furniture | 38,4 | 2,1 | 38,8 | 2,1 | 35,3 | 1,9 | 27,0 | 1,8 | 21,2 | 1,7 | 23,6 | 1,5 | 19,7 | 1,3 |
| XI | Drugs, chemicals & paint | 28,9 | 1,3 | 35,7 | 1,9 | 22,4 | 1,2 | 21,2 | 1,4 | 17,4 | 1,2 | x | x | 12,2 | 0,9 |
| XII | Surgical instruments, etc. | 27,6 | 1,5 | 26,5 | 1,1 | x | x | x | 1,5 | x | x | x | x | x | x |
| XIII | Plated ware | 13,1 | 0,7 | x | x | 9,6 | 0,5 | 23,1 | 1,2 | 18,4 | 1,1 | 11,3 | 0,7 | x | x |
| XIV | Heat, light and power | 10,5 | 0,5 | 3,6 | 0,2 | 3,9 | 0,2 | 7,9 | 0,5 | 4,5 | 0,3 | 4,7 | 0,3 | x | x |
| XV | Leather and leatherware | 23,1 | 1,2 | 20,7 | 1,1 | 18,8 | 0,9 | 18,5 | 1,2 | 16,9 | 1,1 | 19,6 | 1,3 | 25,8 | 1,8 |
| XVI | Building | 13,1 | 0,7 | 15,1 | 0,8 | 21,4 | 1,1 | 15,1 | 1,0 | 14,5 | 0,9 | 15,9 | 1,0 | x | x |
| XVII | Other | 37,4 | 2,1 | 30,9 | 1,7 | 24,0 | 1,3 | 11,6 | 0,8 | 24,9 | 1,5 | 15,2 | 0,9 | 2,2 | 0,9 |

x - figures not available

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| YEAR | CENSUS | U.G. | | | |
|---|---|---|---|---|---|
| 1915-16 | 1st Industrial Census | 1917 | 14 | - | 1918 |
| 1916-17 | 2nd | 1918 | 51 | 1 | 1918 |
| 1917-18 | 3rd | 1919 | 17 | - | 1920 |
| 1918-19 | 4th | 1926 | 28 | - | 1921 |
| 1919-20 | 5th | 1921 | 48 | - | 1921 |
| 1920-21 | 6th | 1922 | 40 | - | 1922 |
| 1921-22 | 7th | 1923 | 14 | - | 1924 |
| 1922-23 | 8th | 1924 | 41 | - | 1924 |
| 1923-24 | 9th | 1925 | 35 | - | 1926 |
| 1924-25 | 10th | 1926 | 41 | - | 1927 |
| 1925-26 | 11th | 1927 | 32 | - | 1928 |
| 1926-27 | 12th | 1928 | 51 | - | 1928 |
| 1927-28 | 13th | 1929 | 18 | - | 1930 |
| 1928-29 | 14th | 1929 | 44 | - | 1930 |
| 1929-30 | 15th | 1931 | 33 | - | 1931 |
| 1932-33 | 16th | 1934 | 31 | - | 1935 |
| 1933-34 | 17th | 1936 | 34 | - | 1936 |
| 1934-35 | 18th | 1937 | 30 | - | 1937 |
| 1935-36 | 19th | 1938 | 24 | - | 1938 |
| 1936-37 | 20th | 1939 | 39 | - | 1939 |
| 1937-38 | 21st | 1941 | 21 | - | 1941 |
| 1941-42 | 25th | 1945 | 20 | - | 1945 |
| 1942-43 | 26th | 1946 | 20 | - | 1946 |
| 1943-44 | 27th | 1947 | 22 | - | 1947 |
| 1945-46 | 29th | | 50 | | |
| 1947-48 ) | 31st ) | | | | |
| ) | ) | | | | |
| 1948-49 ) | 32nd ) | 1945 | 30 | - | 1954 |
| ) | ) | | | | |
| 1949-50 ) | 33rd ) | | | | |
| 1954-55 | | | | | |
| 1958-59 | | | | | |
| 1959-60 | | | | | |

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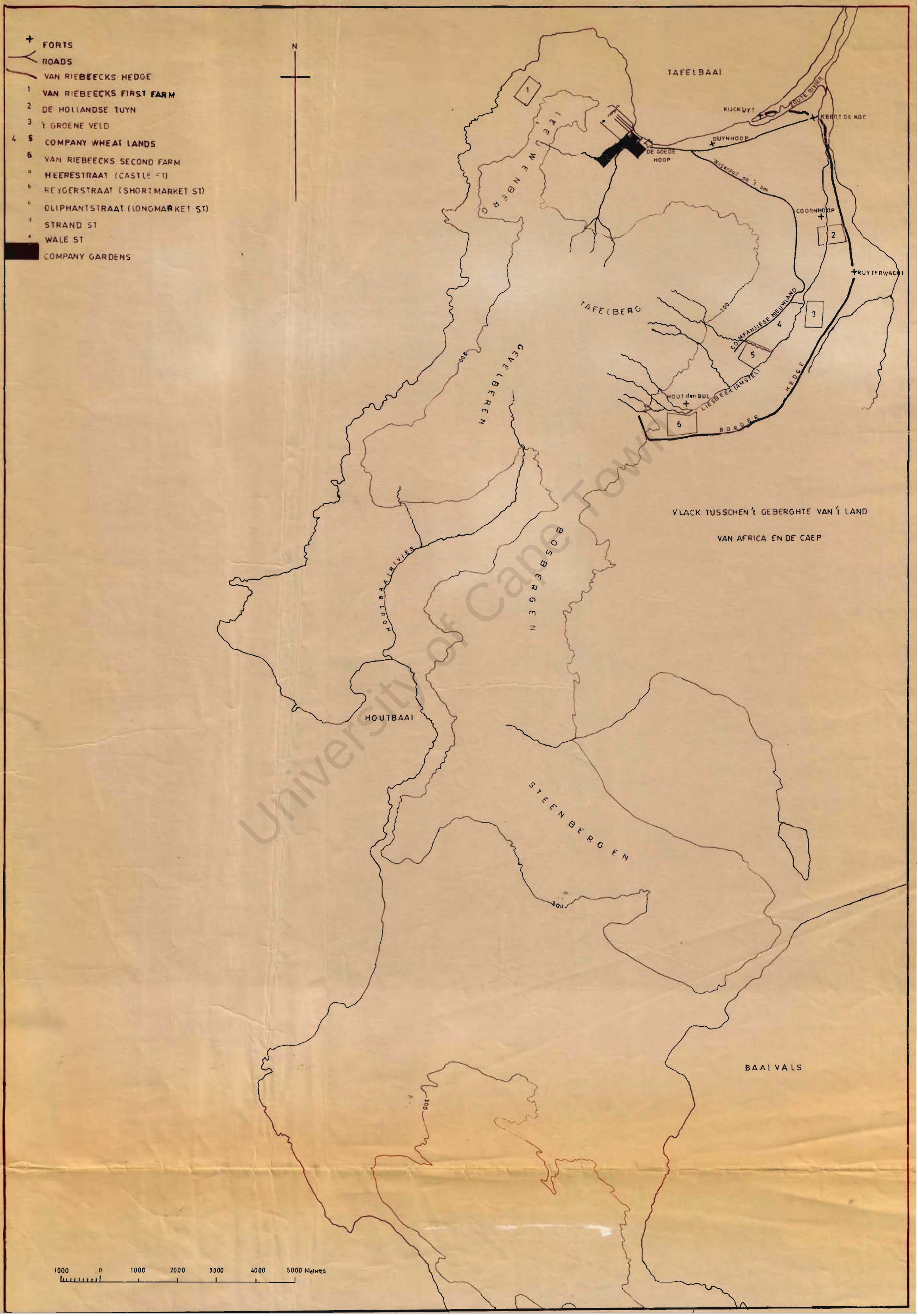
# THE SETTLEMENT AT THE CAPE 1660

PLATE I



# CAPE TOWN AND ENVIRONS

1920

PLATE II

INDUSTRIAL AREAS
WHITE RESIDENTIAL AREAS
NON-WHITE RESIDENTIAL AREAS
STATIONS
RAILWAYS
MAIN ROADS

1 CENTRAL CITY
2 DISTRICT SIX-WOODSTOCK
3 SALTRIVER-OBSERVATORY
4 ROSEBANK
5 RONDEBOSCH
6 NEWLANDS

MILNERTON
BELLVILLE
PAROW
ELSIES RIVER
MAITLAND ROAD
SEA POINT
MONUMENT
CAPE TOWN
DOCK
SALT RIVER
MAITLAND
OBSERVATORY
PINELANDS
LANGA
MOWBRAY
ROSE BANK
MAIN ROAD
RONDEBOSCH
ATHLONE
KLIPFONTEIN ROAD
NEWLANDS
CLAREMONT
CRAWFORD
KENILWORTH
WYNBERG
LANSDOWNE ROAD
OTTERY
PLUMSTEAD
DIEPRIVER
HEATHFIELD
RETREAT
LAKESIDE

1000 0 1000 2000 3000 4000 5000 Metres
1:50000

# CAPE TOWN AND ENVIRONS

1970

PLATE III

INDUSTRIAL AREAS
WHITE RESIDENTIAL AREAS
NON-WHITE RESIDENTIAL AREAS
STATIONS
RAILWAYS
MAIN ROADS
POWER STATIONS

1 CENTRAL CITY
2 DISTRICT SIX-WOODSTOCK
3 SALTRIVER
4 OBSERVATORY
5 PAARDEN EILAND
6 MAITLAND
7 NDABENI
8 EPPING INDUSTRIA
9 BEACONVALE
10 ELSIESRIVER
11 PAROW EAST
12 TRIANGLE FARM AND KASSELSVLEI ROAD
13 SACKS CIRCLE
14 PAROW INDUSTRIA
15 ATHLONE INDUSTRIA
16 LANSDOWNE-FLAMINGO CRESCENT
17 LANSDOWNE-GLOSDERRY ROAD
18 WETTON
19 DIEPRIVER
20 RETREAT
21 NEWLANDS
22 RONDEBOSCH

TABLE BAY
FALSE BAY
NATIONAL ROAD
VOORTREKKER ROAD
EASTERN BOULEVARD
DE WAAL DRIVE
MAIN ROAD
KLIPFONTEIN ROAD
SETTLERS WAY
LANSDOWNE ROAD
WETTON ROAD
KASSELSVLEI RD
HOUSEBOAM ROAD
CAPE TOWN
PAARDENEILAND
KOEBERG RD
MAITLAND
NDABENI
OBSERVATORY
SALTRIVER
WOODSTOCK
ROSEBANK
RONDEBOSCH
NEWLANDS
CLAREMONT
HARFIELD RD
KENILWORTH
WYNBERG
WITTEBOME
PLUMSTEAD
STEURHOF
SOUTHFIELD
DIEPRIVER
HEATHFIELD
RETREAT
STEENBERG
LAKESIDE
OTTERY
CRAWFORD
ATHLONE
RYLANDS
GOODWOOD
EPPING
BELLVILLE
PAROW
STIRLAND
KAMEPTA
WEIKGENOT
DUINE
HOUSEBOAM
GOODWOOD
LAVISTOWN
LANGA
ELSIES RIVER
BEACONVALE
VASCO
HAZENDAL
HEIDEVELD
RYLANDS
ATHLONE
LANSDOWNE
WETTON
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

1000 0 1000 2000 3000 4000 5000 Metres
1:50000

# CENTRAL CITY
1920

PLATE IV

N

TABLE BAY

- BLACKSMITH
- CARDBOARD BOXES
- CHEMICALS
- CIGARETTES
- CLOTHING
- ENGINEERING
- FOUNDRY
- FURNITURE
- GASWORKS
- JOINERY
- LEADWORKS
- MATRESS WORKS
- MINERAL WATER
- PRINTING
- PROCESSING OF FOOD
- SHOES
- TANNERY
- TEXTILES
- VEHICLES
- CBD BOUNDARY

- CHEMICAL PRODUCTS
- CLOTHING AND TEXTILES
- ENGINEERING AND SHEETMETAL PRODUCTS
- FOOD PRODUCTS
- LEATHER PRODUCTS
- PAPER PRODUCTS
- PRINTING
- WOOD PRODUCTS

ALFRED BASIN
PETROL STORAGE TANKS
FISH MARKET
COAL YARD
A
B
C
CEMETERY
HAR. BOARD STABLES
WAGON OUTSPAN
HOSPITAL
SCHOOL
DOCK ROAD
MARINE DRIVE
S.A.R. and H.
STATION
CASTLE
PARADE
G.P.O.
DARLING ST
STRAND STREET
ADDERLEY STREET
LONG STREET
LOOP STREET
WATERKANT ST
PRESTWICH ST
SOMERSET ROAD
SHORT MARKET
LONG MARKET
GREEN MARKET SQUARE
ST GEORGE'S
CHURCH SQUARE
PARLIAMENT PLEIN
CASTLE BREE
WALE STREET
BUITENGRACHT
DORP
LEEUWEN
PEPPER
BLOEM
BUITEN
ORPHEN ST
BUITENCINGLE
VICTORIA ST
LARISBROOK ST
MILITARY RD
PARK RD
HILLSIDE RD
KEN MORE RD
BRUNSWICK RD
BURNSIDE RD
CARSTENS ST
ROELAND ST
BARRACK ST
COMMERCIAL ST
ALBERTUS ST
CALEDON ST
BUREAU ST
SPIN ST
STAL PLEIN
VREDE ST
WANDEL ST
ANNA DALE
ORANGE ST
GOVERNMENT AVENUE
PUBLIC GARDENS
QUEEN VICTORIA ST
GREYS PASS
UPPER CANTERBURY ST
1:2400
200 0 200 400 600 800 1000 1200 FEET

# DISTRICT SIX

1920

PLATE V

TABLE BAY

SOUTH AFRICAN RAILWAYS GOODS YARDS AND WORK SHOPS

CASTLE

EARLY MORNING MARKET

NEW MARKET

LOWER RUSSELL ST

STUYVESANT ST

SIR LOWRY ROAD

TENNANT ST

SIDMOUTH ST

SELKIRK ST

CHAPEL ST

FRANCIS STREET

QUEEN STREET

NELSON ST

OSBORNE ST

BALFOUR ST

SEARLE ST

ARMADALE

RAVENSCRAIG

PINE ST

QUEENS RD

SALMON ST

TECK ST

KING ST

WALMER RD

WARWICK

COVENTRY

DUKE

QUEENS RD

PARK ROAD

HIGH ST

BRIDGE ST

LEVER RD

PRINCES RD

SHORT ST

MILAN RD

CHESTER RD

HYDE

OCKHAM

BRUCE

VINE

WINDSOR

OXFORD ST

SUMMER RD

HIGH ST

LAVENDER HILL

ST LEGER ST

SPRINGFIELD

UPPER ASHLEY

BLYTH ST

ROCHESTER RD

CHATHAM RD

OAKWORTH

GEELONG ST

DARLING ST

LONGMARKET

CALEDON ST

ALBERTUS ST

BARRACK ST

COMMERCIAL ST

ROELAND STREET

PARADE

BUITENKANT ST

HARRINGTON ST

CANTERBURY ST

CONSTITUTION ST

BLOEMHOF ST

KENT ST

GORE ST

VAN DER LEUR ST

PRIMROSE

MOUNT

HANOVER ST

PERKINS ST

TENNANT

ROBERT

TYNE ST

ASPEL

WORCESTER

HAMPTON

KORTE ST

WILLIAM ST

ANDO ST

MC GREGOR ST

PROGRESS AV

ALBERT ST

ROBINSON ST

STIRLING ST

SACKVILLE ST

DE VILLE ST

MC KENZIE ST

BIRCHINGTON ST

WATERLOO

GLYNN ST

CLIFTON

ASHLEY

LEWIS

LEROUX

LEROUX ST

LEROUX

STONE

ROAD

CHEQUER

CHEQUER

CHEQUER

# WOODSTOCK-SALT RIVER

1920

PLATE VI

CHEMICAL PRODUCTS
CLAY AND CEMENT PRODUCTS
CLOTHING AND TEXTILES
ENGINEERING AND METAL PRODUCTS
FOOD PRODUCTS
LEATHER PRODUCTS
PRINTING
WOOD PRODUCTS

1:2400

200 0 200 400 600 800 1000 1200 FEET

BAKING
BLACKSMITHS
BRICKS
CHEMICALS
FOUNDRY
FURNITURE
JOINERY
LEATHER PRODUCTS
MILLING
PRIVATE POWER STATION
PRINTING
PROCESSING OF FOODSTUFFS
LEATHER PRODUCTS
ENGINEERING
TANNING
VEHICLES
VINEGAR AND MINERWATER WORKS
WOOLLEN MILLS

TABLE BAY

N

SALT RIVER

MILNERTON RLY.

SALT RIVER RAILWAY WORKS

SOUTHGATE ST. WOODSTOCK ST. ALBIGATE ST. FOREGATE ST. MILLGATE ST. HIGHGATE ST.

PORTER ST. BEACH ROAD GAS WORKS

WOODSTOCK STATION

UTC WARE HOUSE

GREY ST. DAVISON LENNOX ST. LOWER CHURCH ST.

ALBERT ROAD

STRAND ST. RAILWAY BROMWELL ST.

GYMPIE ST. HERCULES ST. WRIGHT ST. SUSSEX ST. PARKE ST. CHURCH ST. CAVENDISH SQUARE PLEIN ST. CLYDE ST. ABERDEEN ESSEX DUBLIN ARGYLE DEVON CROMWELL REGENT SQUARE DICKSON ST. REGENT ST.

VICTORIA ROAD

KENT ST. YORK ST. OXFORD REGENT ST. ORMSKIRK ST. JAMES ST.

SALT RIVER ROAD

MAITLAND RD. ALBERT ROAD STOWE ST. DOUGLAS ALFRED ST. JUNCTION LOWER BURNS PORTLAND LONDON

CALVIN ST. CARLTON ST. EARL ST. DUNDONALD ALLOA GLEN ALLOA RD. WILYARD ST. FAIRVIEW RD. ROBERTS ROAD LAWLEY ST. AVENUE STRYDOM RD. LISTOWEL SOUTH RD. HARFIELD RD. KLIPPE RD. BRICKFIELD RD.

HAY ST. WALMER RD. VICTORIA MOUNTAIN ROAD BRABANT KITCHENER

NERINE ST. SALISBURY CHAMBERLAIN BALFOUR ST. PALMERSTON DEVONSHIRE ROBERTSON ST. THE AVENUE

COVENTRY DUKE QUEENS KEPPEL MELBOURNE PARK RD. CORONATION STREET CHESTER STREET

HOPKINS ST. YEW ST. BRIAR ST. MANROSE AUBREY SHANNON DURHAM AVENUE

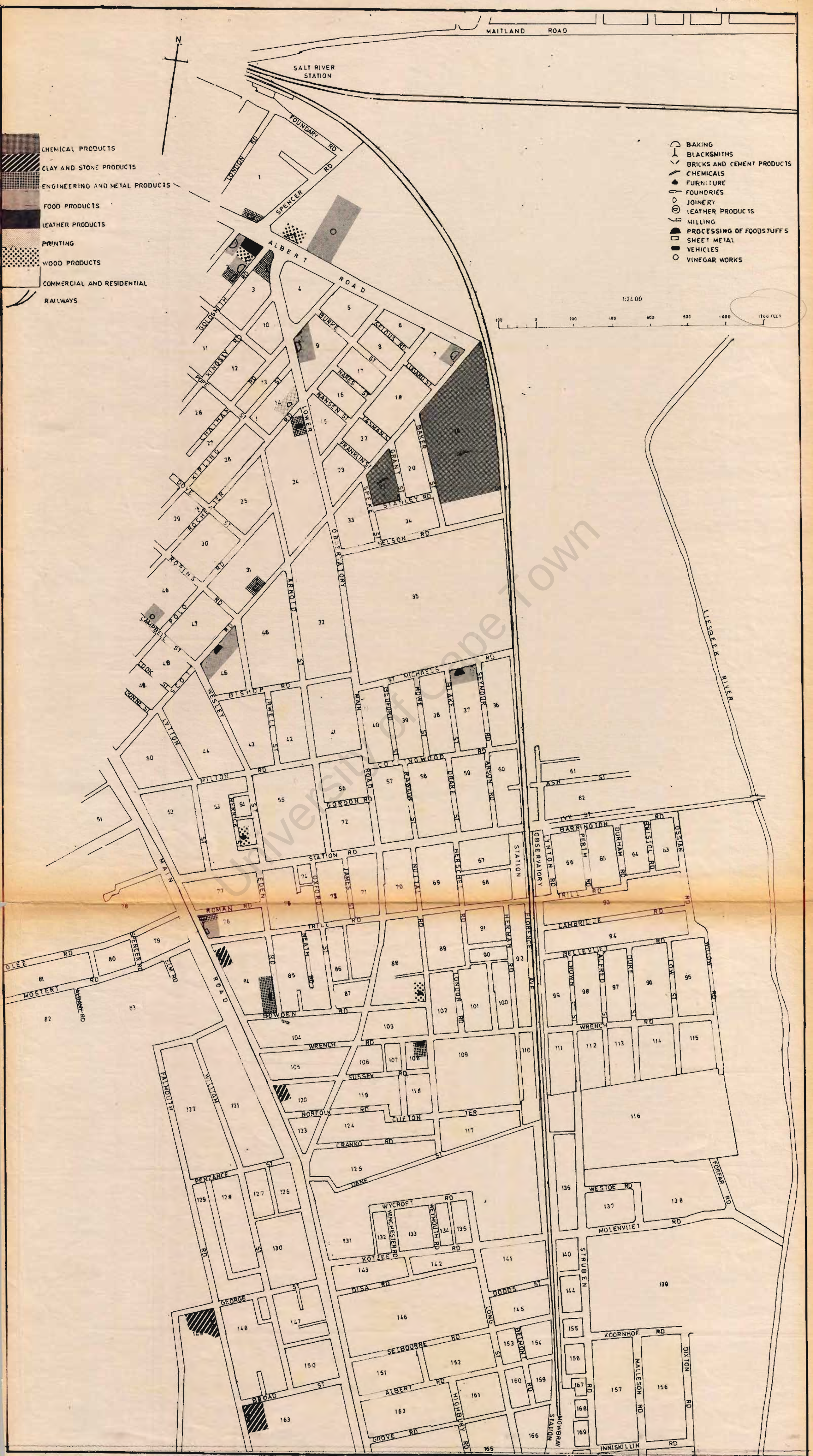
CHAPEL ST. HOBART ST. ADDISON BURNS COLERIDGE PIKE CECIL FENTON GOLDSMITH KINGSLEY SWIFT ST. TENNYSON RD.

PICKWICK RD. DICKENS RD. SHELLY KIPLING ROCHESTER MAIN RD. POLA

# OBSERVATORY

1920

PLATE VII



# CENTRAL CITY
1972

PLATE VIII

BOAT BUILDING
CLOTHING
CHEMICALS
ENGINEERING AND SHEET METAL
FURNITURE
FOOTWEAR
PLASTICS
PRINTING
PROCESSING OF FOODSTUFFS
WOMENS APPAREL
YARNS
C.B.D. BOUNDARY

CHEMICAL AND PLASTIC PRODUCTS
CLOTHING AND YARNS
ENGINEERING AND SHEET METAL PRODUCTS
FOOD PRODUCTS
LEATHER PRODUCTS
PRINTING
WOOD PRODUCTS

DUNCAN DOCK
ALFRED BASIN
DRY DOCK
SLIP WAY
PETROL STORAGE
UNDEVELOPED LAND
TABLE BAY BOULEVARD
RUA BARTHOLOMEO DIAZ
RUA VASCO DA GAMA
LOUIS GRADNER ST
HERTZOG BOULEVARD
COEN STEYTLER AVENUE
HEERENGRACHT
POWER STATION
COAL YARD
KERSHAW ST
FLEMING ST
CARDIFF RD
BENNETT ST
BATTERY ST
AMSTERDAM ST
PORT ROAD
STANLEY ST
DOCK ROAD
HOSPITAL ST
BAIN ST
SHORT ST
JETTY ST
MECHAU ST
PRESTWICH ST
SOMERSET ROAD
HIGHFIELD RD
HORELAND TER
JARVIS ST
SMIDT ST
DE LOADER ST
LEVEL ROAD
BOUNDARY RD
SIDE TER
GALLOWS HILL RD
EBENEEZER RD
LIDDLE ST
COBURN ST
ALFRED ROAD
CHIAPPINI ST
NAPIER ST
DIXON ST
VOS ST
HUDSON ST
A RIEBEEK ST
WATERKANT ST
MARINE ST
LR BURG ST
EXCHANGE PL
STRAND ST
CASTLE BREE ST
LOOP ST
LONG ST
HOUT ST
STREET
STATION
PARKING
STATION DECK
CASTLE
PARADE
G.P.O.
TRAFALGAR PL
DARLING ST
SHORTMARKET ST
LONGMARKET ST
CHURCH ST
WALE ST
DORP ST
LEEUWEN ST
PEPPER ST
BLOEM ST
BUITEN ST
ORPHEN ST
BUITENGRACHT
RIEBEECK SQ
GREEN MARKET SQ
ADDERLEY ST
PARLIAMENT ST
CHURCH SQUARE
PLEIN
CORPORATION
CALEDON
PARADE
ALBERTUS ST
BARRACK ST
COMMERCIAL ST
ROELAND ST
LEITE ST
STAL PLEIN
CONCORDIA
BOUQUET ST
BUITENKANT
HARRINGTON
LAMBTAIN
CANTERBURY
ST JAMES WALK
UP CANTURBURY ST
QUEEN VICTORIA GARDENS
GOVERNMENT AVENUE
KEEROM ST
WILKINSON ST
PERTH ST
GREYS PASS
ORANGE STREET
ANNADALE
MILL ST
HOPE ST
WANDEL ST
DUNKLEY ST
NORMAN ST
WHEELER ST
BECKHAM ST
AVENUE ST
BARNETT ST
SAVILLE TER
WESLEY ST
INCHCOLM
VREDE ST
ST JOHNS
TUIN
GLYNN
MIDDLEWAY ST
MAYNARD
CLARE
GREEDA
MIDDLEWAY AV
KLOOF ST
KLOOF ROAD
NEW CHURCH ST
UPPER BUITENGRACHT
JAMBOERS
LEEUWENDOF
BRUNSWICK RD
BURNSIDE RD
CARSTENS ST
HILLSIDE RD
PARKHOUSE RD
PARK RD
MILITARY RD
BUNNINGTON ST
CARISBROOK ST
WHITEFORD RD
VICTORIA ST
BUITENCINGLE ST
LION
BYANT
JORDAAN
DEVONPOORT
QUEENS
BROWNLOW
KENMORE RD
MILNER
POYSER
PENTZ ST
NITZ ST
AUGUST
ELLA
FRIEDERICK ST
CARL
STADTHOF
DAWES ST
SIGNAL ST
MORRIS
ROSE
CHIAPPINI

# DISTRICT SIX

1972

PLATE IX

# WOODSTOCK-SALTRIVER

1972

PLATE X

CHEMICALS
CLOTHING
ENGINEERING AND SHEET METAL
FOOD PROCESSING
FURNITURE
JOINERY
RUBBER PRODUCTS
SPINNING AND WEAVING
WOMENS APPAREL

CHEMICALS PLASTIC AND RUBBER PRODUCTS
CLOTHING AND TEXTILES
ENGINEERING AND METAL PRODUCTS
FOOD PRODUCTS
PACKAGING
WOOD PRODUCTS
RAILWAYS

CULEMBORG MARSHALING YARD
TIDE ST
ESPLANADE
BEACH ROAD
SOUTHGATE ST
BOURGATE ST
ALBGATE ST
FOREGATE ST
MILLGATE ST
HIGHGATE ST
PORTER ST
WOODSTOCK STATION
GRIEV ST
DAVISON ST
LENNOX ST
MARGARET ST
LOWER CHURCH ST
LOADS ST
JOHN ST
GOUBE ENGINEERING
GAS WORKS
SALT RIVER RAILWAY WORKS
SIRAND
BROMWELL ST
RAILWAY
MILL ST
ALBERT ROAD
DICKSON ST
REGENT SQUARE
CAVENDISH SQUARE
CLYDE ST
ABERDEEN ROAD
ESSEX
DUBLIN
ARGYLE
DEVON
STRATHLEVEN
ORMSKIRK ST
JAMES ST
REGENT ST
YORK ST
OXFORD ST
KENT ST
STOWE ST
DOUGLAS
MAITLAND RD
ALBERT ROAD
CHAPEL ST
ADDISON RD
BURNS RD
COLERIDGE RD
DRYDEN
CECIL ST
FENTON RD
GOLDSMITH
KINGSLEY
SWIFT
POPE
DURHAM AVENUE
SALT RIVER
HOPKINS
VIEW ST
BRIAR ST
SHANNON
MANROSE
AUBREY
HARES AVE
QUEENSPARK
BRICKFIELD ROAD
PICKWICK RD
DICKENS RD
SHELLY
MAIN RD
KIPLING
WORCHESTER
ASHWELL RD
VICTORIA ROAD
STATION MAIN ST
SUSSEX ST
CHURCH
CALVIN ST
CALEB
CAMBRIDGE ST
BARON ST
FAIL ST
DUNDONALD
ALBION GROVE
MILYARD ST
MOUNTAIN ROAD
BRABANT
FAIRVIEW
KILCHENER
ROBERTS
LAWLEY ST
AVENUE
BIRKDALE
BOOTH RD
LISTOWEL
VICTORIA WAY
NERINE ST
SALISBURY
CHAMBERLAIN
BALFOUR ST
PALMERSTON
DEVONSHIRE
ROODEBLOEM ST
THE AVENUE
CORONATION STREET
CHESTER STREET
PARK RD
MELBOURNE
QUEENS
DUKE
COVENTRY
KEPPLE
HERCULES
GYMPIE
LEVER
SIM
PAGE
PARKER
MARGARET
VINE
ANNE
MARION
ALBION GROVE
CAMBRIDGE ST
CAMBRIDGE

N

1:2400

200 0 200 400 600 800 1000 1200 FEET

# OBSERVATORY

1972

PLATE XI

N

1:2400

300 0 200 400 600 800 1000 1200 FEET

- BAKING
- BRICKS AND CEMENT PRODUCTS
- BRUSHWARE
- CHEMICALS
- CLOTHING
- ENGINEERING AND SHEET METAL
- FURNITURE
- PLASTIC PRODUCTS
- PRINTING
- PROCESSIN OF FOOD STUFFS
- MILLING
- VINEGAR WORKS
- WEAVING OF WOOL
- WOMENS APPAREL

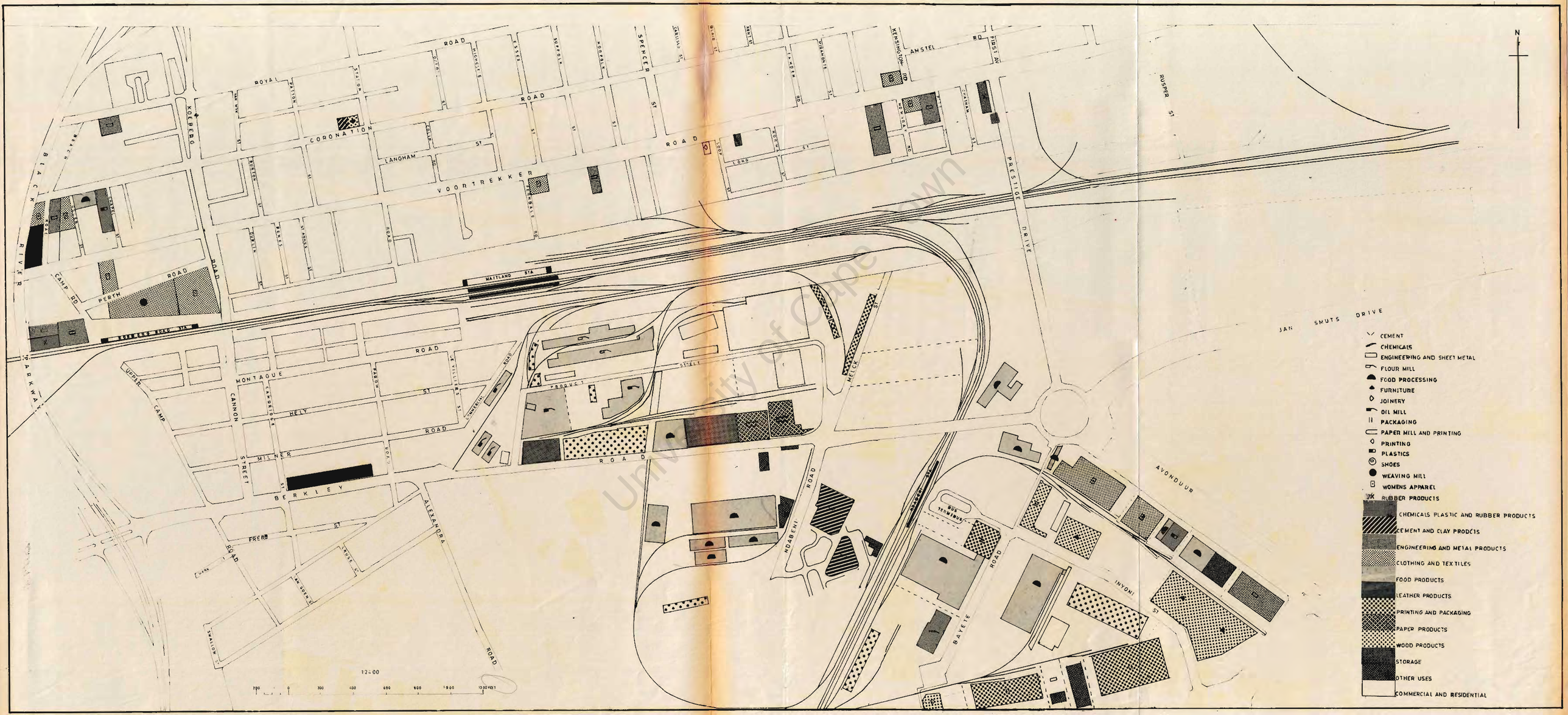
- CHEMICAL AND PLASTIC PRODUCTS
- CLAY AND STONE PRODUCTS
- CLOTHING AND TEXTILES
- ENGINEERING AND METAL PRODUCTS
- FOOD PRODUCTS
- FURNITURE
- PRINTING
- BRUSHWARE
- COMMERCIAL AND RESIDENTIAL
- RAILWAYS

SALT RIVER STATION
FOUNDRY RD
LONDON RD
SPENCER RD
MALTA ROAD
GOLDSMITH RD
KINGSLY RD
BURKE ST
SEDGUS RD
LIGARD ST
NARES ST
NANSEN ST
TASMAN ST
FRANKLIN ST
GRANT ST
BAKER ST
SPEKE ST
LOWER RD
CHALHAM RD
ALPLIN ST
ROCHESTER RD
ROBINS RD
POLO RD
AMPBELL ST
COOK ST
SCOTT ST
DONNE ST
WESLEY ST
LYTTON RD
SISHEN RD
IRWELL ST
MAIN ST
BEDFORD ST
HOWE ST
BLAKE RD
SEYMOUR RD
ARNOLD ST
OBSERVATORY RD
MERRICK ST
JORDON RD
RAWSON ST
DRAKE ST
ANSON RD
ASH ST
IVY ST
BARRINGTON RD
LIESBEECK PARKWAY
OSSIAN RD
BRISTOL RD
DURHAM RD
PERTH RD
LYNTON RD
TRILL RD
CAMBRIDGE RD
BELLEVUE RD
CROWN ST
ALFRED ST
DUKE ST
LOW ST
WILLOW RD
WRENCH RD
SUSSEX RD
NORFOLK RD
CLIFTON TER
CRANKO RD
DANE ST
WYCROFT RD
WINCHESTER RD
NEWTON RD
KOTZEE RD
DISA RD
DODDS ST
SETTLERS WAY
SELBOURNE RD
BELMONT RD
ALBERY RD
HIGHBURY RD
GROVE RD
MOWBRAY STATION
KOORNHOF RD
MALLESON RD
DIXTON RD
WESTOE RD
MOLENVLIET RD
FORFAR RD
STRUBEN ST
ROMAN RD
SOWDEN RD
WRENCH RD
STATION RD
MOSTERT RD
GLEE RD
ALBANY RD
SPENCER RD
ELM RD
FALMOUTH RD
WILTON RD
PENZANCE RD
GEORGE RD
MAIN ROAD
DE WAAL DRIVE
HERSCHEL RD
FLORENCE AV
EDEN RD
OXFORD RD
JAMES ST
NUTAL RD

DATE

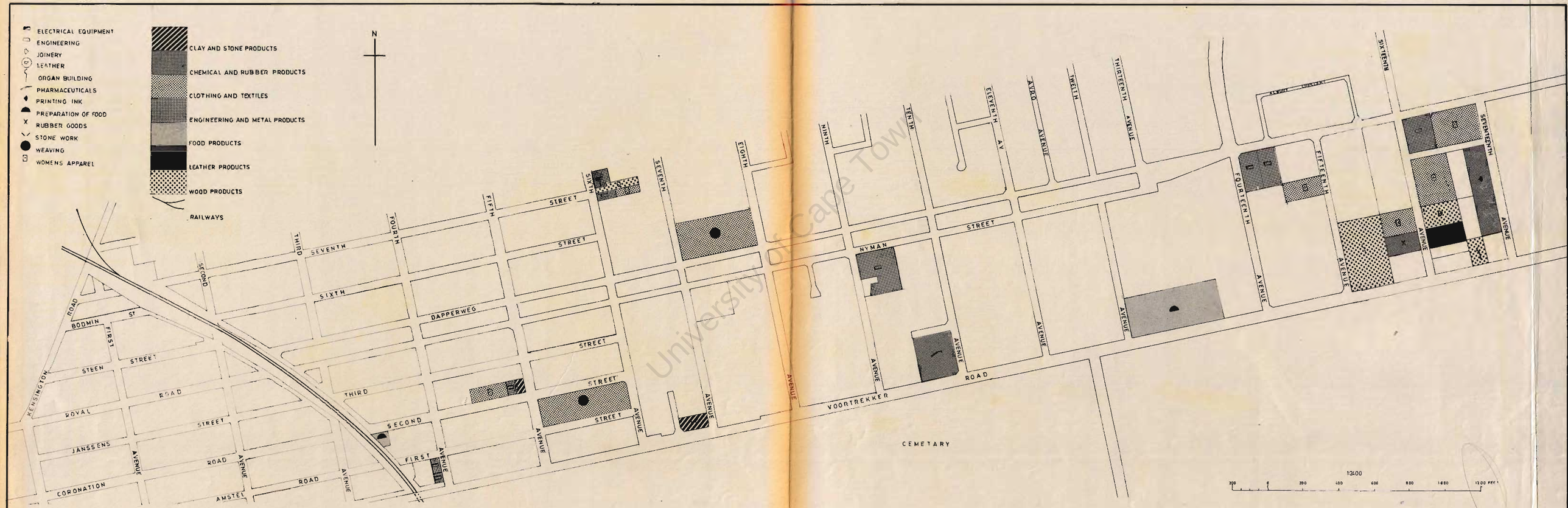
# MAITLAND-NDABENI

PLATE XII



# KENSINGTON

PLATE XII



# PAARDEN EILAND

PLATE XIV

BAKING
BRICKS
CHEMICALS
CLOTHING
ENGINEERING
FOUNDRY
FURNITURE
JOINERY
LEATHER PRODUCTS
MILLING
PACKAGING
PRINTING
PRINTING INK
PROCESSING OF FOODSTUFFS
PROCESSING OF PLASTICS
SACKS
TEXTILES

CHEMICAL AND PLASTIC PRODUCTS
CLAY AND STONE PRODUCTS
CLOTHING AND TEXTILES
ENGINEERING AND METAL PRODUCTS
FOOD PRODUCTS
LEATHER PRODUCTS
PACKAGING
PRINTING
WOOD PRODUCTS
STORAGE
WHOLESALE HOUSES
OTHER USES
VACANT
RAILWAYS

N

DRIVE
SHROPSHIRE
AUCKLAND
SECTION
NEPTUNE
VERBENA
HERMES
MARINE
AMPHION
REFINERY RD
INDUSTRY
CUMBERLAND RD
PAARDEN EILAND
NEREIDE
POWER STATION
ROAD
WESSEX RD
KEMPENTELTWEG
CARLISLE
WALLFLOWER
FUCHSIA
BRIDGEWATER
DORSETSHIRE
POWERFUL
LOWESTOFT
CALCUTTA
TRANSVAAL
MOSSELBAAI
BERG-JUDA
NATAL
BLOEMFONTEIN
LOUIS GLASSMAN AV
BOULEVARD
BAY
TABLE

1:2400
200 0 200 400 600 800 1000 1200 FEET

# PAARDEN EILAND NORTH

DATE

PLATE XV

CHEMICALS
ENGINEERING AND SHEET METAL
JOINERY
PLASTICS
PROCESSING OF FOOD

CHEMICALS AND PLASTIC PRODUCTS
ENGINEERING AND METAL PRODUCTS
PROCESSING OF FOOD
PRINTING
WHOLESALE
STORAGE
OTHER
VACANT

N

TABLE BAY

MARINE DRIVE

AUCKLAND STREET

ACTEON ST

VRYSTAATWEG

PRESIDENT KRUGER ST

CANAL

1:2400

200 0 200 400 600 800 1000 1200

# EPPING 1(a)

Date.

PLATE XVI

CHEMICALS
ENGINEERING AND SHEET METAL
FOOD PROCESSING
JOINERY
PACKAGING
PRECAST CONCRETE
VEHICLES

CHEMICAL PRODUCTS
CONCRETE PRODUCTS
ENGINEERING AND METAL PRODUCTS
WOOD PRODUCTS
PACKAGING
PROCESSING OF FOOD
STORAGE
WHOLESALE
OTHER

N

1:2400

200 0 200 400 600 800 1000 1200

VIKING WAY

GUNNERS CIRCLE

MUNICIPAL MARKET

MOODY AVENUE

CRESCENT

MOODY

JELLICOE AVENUE

GUNNERS CIRCLE

# EPPING 1(b)

PLATE XVII

BAKERY
CHEMICALS
ENGINEERING
FOUNDRY
FURNITURE
GLASS
JOINERY
LIMEWORKS
MILLS
PACKAGING
PAPER
PLASTICS
PROCESSING OF FOOD

CHEMICALS AND PLASTIC PRODUCTS
ENGINEERING AND METAL PRODUCTS
FOOD PRODUCTS
GLASS AND LIME PRODUCTS
PACKAGING
PAPER PRODUCTS
WOOD PRODUCTS
STORAGE
WHOLESALE
OTHER USES
VACANT
RAILWAYS

N

1:2400

GUNNERS CIRCLE
MUNICIPAL
MARKET
BENBOW AVENUE
HAWKINS AVENUE
CRENVILLE AVENUE
FISHER AVENUE

Date

# EPPING 1 (C)

PLATE XVIII

Scale

GUNNERS CIRCLE

AVENUE

COCHRANE

YANGUARD DRIVE

BOFORS CIRCLE

EVANS AVENUE

N

CHEMICALS
COTTON MILLS
ENGINEERING
FOOD PROCESSING
JOINERY
PRINTING
PLASTICS
SAW MILLS
STONE WORK
WOMENS APPAREL
RAILWAYS

CEMENT PRODUCTS
CHEMICALS AND PLASTIC PRODUCTS
CLOTHING AND TEXTILES
ENGINEERING AND METAL PRODUCTS
PRINTING
PROCESSING OF FOOD
WOOD PRODUCTS
OTHER

1:2400

100 0 200 400 600 800 1 000 1200 FEET

CHEMICALS
CLOTHING
ENGINEERING AND SHEET METAL
FOOD PROCESSING
FOUNDING
GLASS
JOINERY
METAL FURNITURE
PACKAGING
PLASTICS
PRINTING
PRINTING INK
SAW MILLS
SHOES
TEXTILES CANVAS AND ROPE
WOMENS APPAREL
ELECTRICAL EQUIPMENT
LEATHER
TOYS
RUBBER PRODUCTS
PAPER

1:2400

200 0 200 400 600 800 1000 1200 FEET

N

CHEMICALS PLASTICS AND RUBBER
CLOTHING AND TEXTILES
ENGINEERING AND METAL PRODUCTS
FOOD PRODUCTS
GLASS
PAPER PRODUCTS
PRINTING AND PACKAGING
PACKAGING
STORAGE
WOOD PRODUCTS
WHOLESALE
OTHER
VACANT

EPPING GARDEN VILLAGE

VIKING WAY

BOFORS CIRCLE

BERTIE AVENUE
CHRISTIAN AVENUE
DACRES AVENUE
ELIOT AVENUE
FITZMAURICE AVENUE
GOODENOUGH AVENUE

VANGUARD DRIVE

PACKER AVENUE
NOURSE AVENUE
MOORSOM AVENUE
LOSACK AVENUE
KINGHALL AVENUE
HEWETT AVENUE

BOFORS CIRCLE

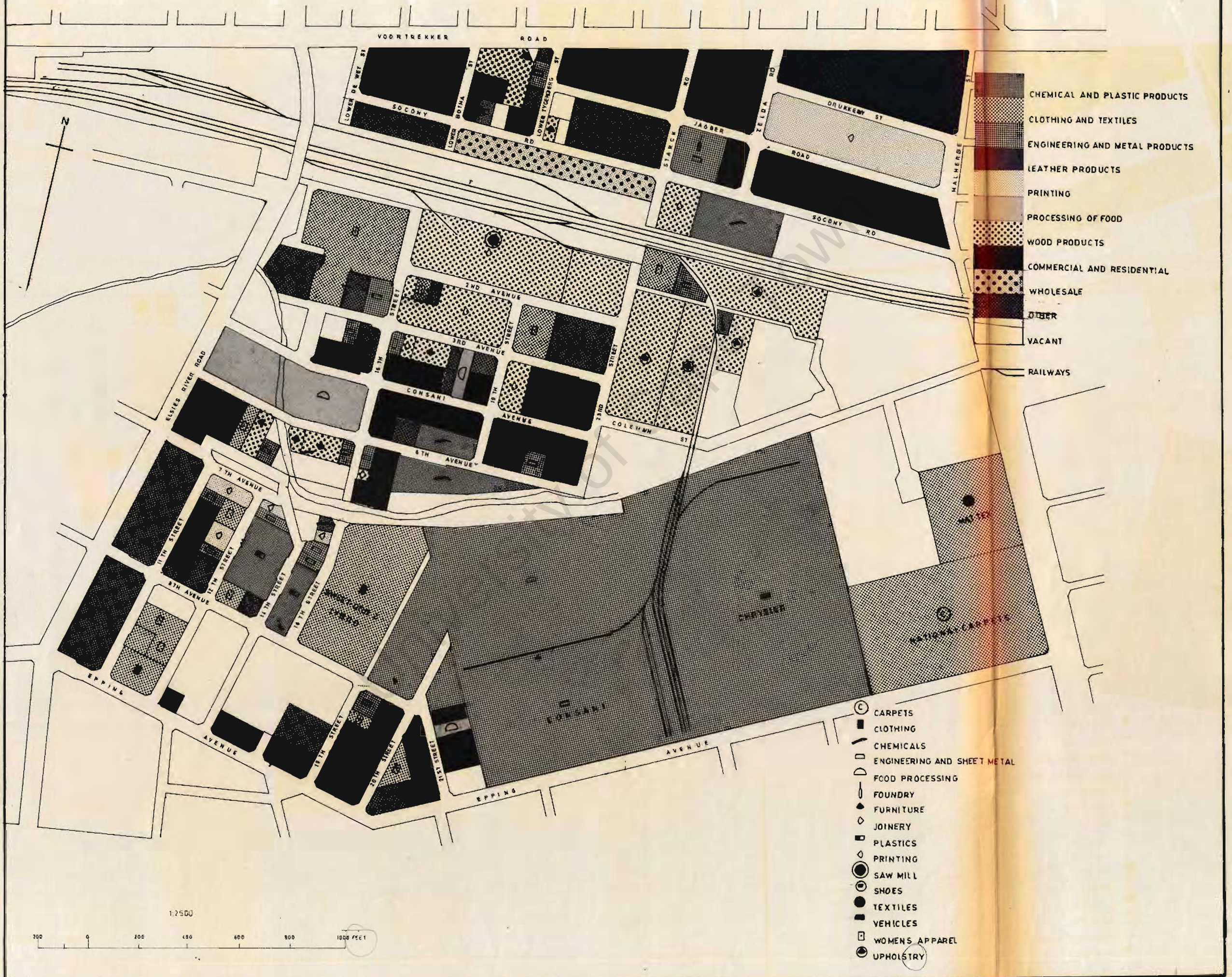
BONTEHEUWEL TOWNSHIP

MATROOSFONTEIN TOWNSHIP

200 0 200 400 600 ENG FEET

# ELSIES RIVER

PLATE XX



# BEACONVALE AND PAROW EAST

PLATE XXI

RESIDENTIAL AND COMMERCIAL

VOORTREKKER ROAD

CLOETE STREET

PAROW STA

DE KOCK STREET

DE LA REY STREET

WEBER ST

MATHEE ST

DUMINY ST

RAILWAY STREET

TIERVLEI STA

BEACONVALE

JAN SMUTS ROAD

MC GREGOR ST

VD STEL ST

VD SPUY ST

VAN DER STEL ST

CONNAUGHT ROAD

RILEY ST

TIGER VALLEY ESTATE

FRANCIE VAN ZIJL STREET

NON WHITE HOUSING ESTATE

CHEMICALS
ENGINEERING
CLOTHING
FURNITURE
INK
JOINERY
PLASTICS
PRINTING
SAW MILLS
SHOES
SPINNING
VEHICLE BODIES
WOMENS APPAREL

1:2500

200 0 200 400 600 800 1000 FEET

CHEMICALS AND PLASTIC PRODUCTS
ENGINEERING AND METAL PRODUCTS
CLOTHING AND TEXTILES
LEATHER PRODUCTS
PRINTING
WOOD PRODUCTS
OTHER USES
VACANT
RAILWAYS

# PAROW INDUSTRIA

Date

PLATE XXII

FRANCIE VAN ZIJL STREET

N

NON WHITE TOWNSHIP

CEMENT PRODUCTS
CHEMICAL AND PLASTIC PRODUCTS
CLOTHING AND TEXTILES
ENGINEERING AND METAL PRODUCTS
PAPER PRODUCTS
PREPARATION OF FOOD
WOOD PRODUCTS
VACANT
RAILWAY

S.A.R. MARSHALLING YARD

ASHINGTON RD

INDUSTRIA RINGROAD

PARIM RD

TEKSTIEL ST

ASSEGAAI ST STREET

SPIN ST

RADNOR RD

DE LA REY STREET

STELLENBERG

MODDERDAM ROAD

MODDERDAM STA

CEMENT
CHEMICALS
CLOTHING
ENGINEERING
JOINERY
PAPER PRODUCTS
PLASTICS
PREPARATION OF FOOD
VEHICLES
WEAVING
WOMENS APPAREL

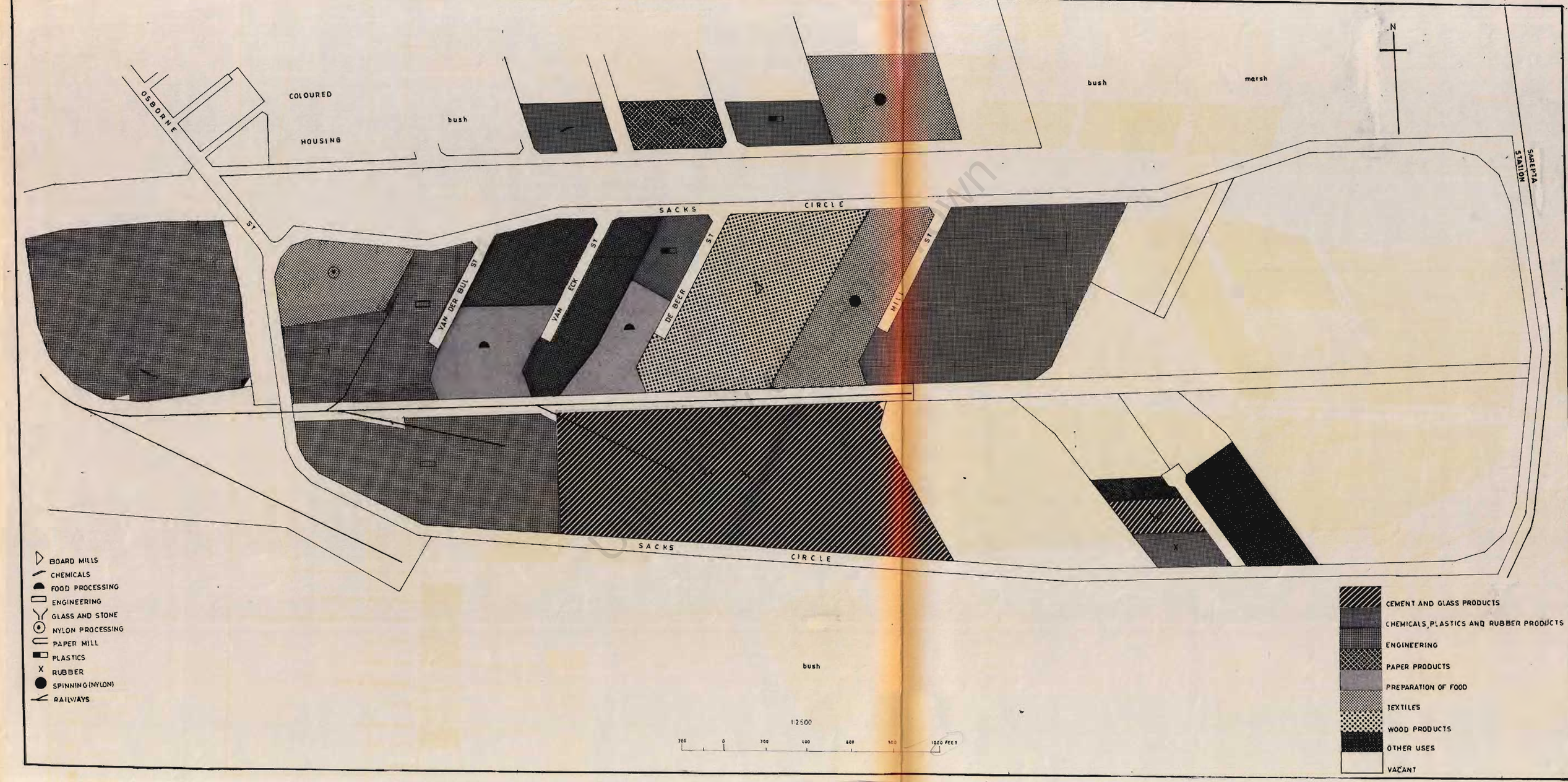
1:5000

500 0 500 1000 1500 FEET

# BELLVILLE SOUTH

## SACKS CIRCLE

PLATE XXIII



# BELLVILLE SOUTH

Date

PLATE XXIV

N

REACTOR

STREET

STREET

STREET

STRAND ROAD

FERGUSON STREET

W E G

BUSH

BRUG

STREET

BUSH

OLD KASSELSVLEI ROAD

BUSH

ATOMIC STREET

UNDEVELOPED

THERMO

MICRO

MOLECULE

ELEKTRON STREET

NEUTRON STREET

URANIUM STREET

BUSH

NEW KASSELSVLEI ROAD

CEMENT
CHEMICALS
CONVEYOR BELTS
ENGINEERING
FURNITURE
JOINERY
PLASTICS
RUBBER
SPINNING
UPHOLSTRY
VEHICLES
VINEGAR WORKS

CEMENT PRODUCTS
CHEMICALS, PLASTIC AND RUBBER PRODUCTS
ENGINEERING AND METAL PRODUCTS
PROCESSING OF FOOD
TEXTILES
WOOD PRODUCTS
VACANT

1:1250

300 0 100 200 300 400 FEET

# LANSDOWNE Date

FLAMINGO CRESCENT

PLATE XXV

# LANSDOWNE

Date

PLATE XXVI

CHEMICALS
CLOTHING AND TEXTILES
ENGINEERING
FOOTWEAR
FURNITURE
PACKAGING
PRINTING
TEXTILES

N

1:1200

100 0 100 200 300 400 500 600FEET

CHEMICALS
CLOTHING AND TEXTILES
ENGINEERING
FOOTWEAR
FURNITURE
PRINTING AND PACKAGING
OTHER

TURF HALL ROAD
ORION ROAD
CASTOR ROAD
POLARIS ROAD
POLLUX ROAD
RIGEL ROAD
BLOMVLEI ROAD

4
14

# LANSDOWNE

Date

PLATE XXVII

1:2400

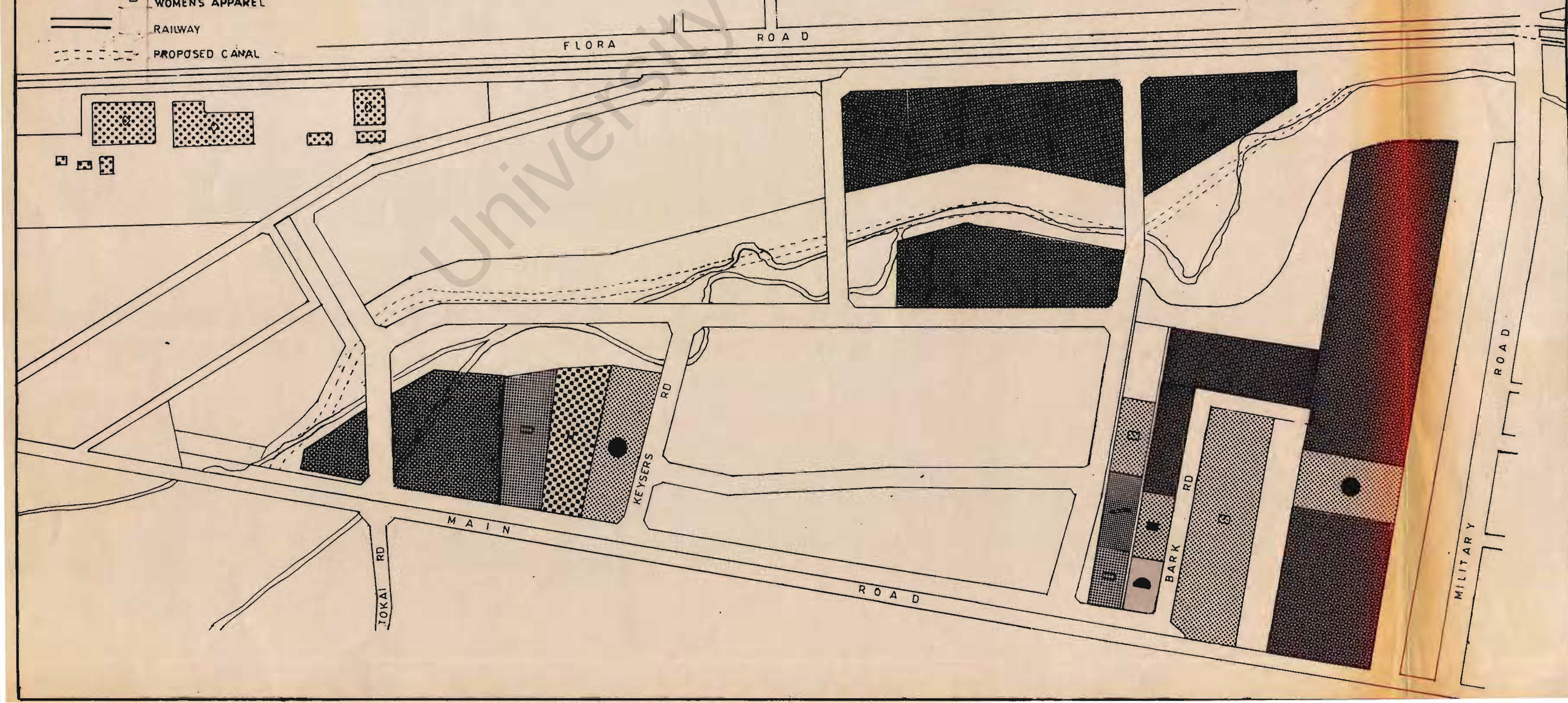
200 0 200 400 600 800 1000 1200 FEET

N


- CHEMICALS
- ELECTRICAL ENGINEERING
- ENGINEERING AND SHEET METAL
- CLOTHING
- FOOD PROCESSING
- FURNITURE
- PACKAGING
- PRINTING
- RUBBER PRODUCTS
- SAW MILLS
- TEXTILES
- WOMENS APPAREL
- RAILWAY
- PROPOSED CANAL

- CHEMICAL PRODUCTS
- CLOTHING AND TEXTILES
- ENGINEERING AND METAL PRODUCTS
- FOOD PRODUCTS
- PACKAGING
- PRINTING
- WOOD PRODUCTS
- UNDEVELOPED INDUSTRIAL
- OTHER

## RETREAT



# DIEP RIVIER

PLATE XXVIII

CONCRETE
ENGINEERING
PACKAGING
WOMENS APPAREL
WOMENS FOOTWEAR

1:2400
200 0 200 400 600 800 1000 1200 FEET

CEMENT PRODUCTS
CLOTHING
ENGINEERING AND METAL PRODUCTS
LEATHER PRODUCTS
PACKAGING
STORAGE
OTHER

N

PLUMSTEAD

bush

PRINCESS VLEI ROAD

bush

trees
and
bush

trees

bush

DE WAAL ROAD

bush

trees
and
bush

marsh
and
bush

bush

bush

# WETTON

PLATE XXIX

CONCRETE
GLASS
JOINERY
SAW MILLS
WOMENS APPAREL

CEMENT PRODUCTS
CLOTHING
GLASS
WOOD PRODUCTS
STORAGE
OTHER USES

N

WETTON ROAD
SERVICE ROAD
WETTON STA.
CANAL
MALTA
RD
CRETE
PLANTATION RD
INDUSTRIAL
SITES
CYPRUS
SICILY RD
WOODLANDS RD
MEADOW RD

1:2400

200 0 200 400 600 800 900 1200 FEET